



GENDERA SYNTHESIS REPORT

GOOD PRACTICES ON GENDER EQUALITY IN
R&D-ORGANIZATIONS. 4TH DRAFT

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1 Preface

Gender equality policy in the field of women in science at European and at national level has come a long way since its inception and considerable ground has been covered since the 1990s. Changes and achievements are to be found in many areas. These achievements are the result of more than 15 years of joint efforts on the part of community of women scientists in Europe and farsighted politicians at national and European level. And they are impressive. But a lot has still to be done.

Detailed observations show that equality policy recently is moving away from the emphasis on “fixing the women” to “fixing the system” as expressed by Londa Schiebinger. This new strategy leads to a change in working methods at all levels. It is, therefore, in the nick of time to bring together and discuss experiences in the practical realization of gender equality in research organizations, like universities, research institutes, national academies and private organizations with the overall objective to facilitate the implementation of gender balance in science and research and create an enabling environment to integrate the gender dimension into science policy throughout Europe.

This is the main aim of the Gender Debate in the European Research Area (GENDERA) project, designed by a consortium of nine partners of quite heterogeneous European countries and one associated country. Experiences in gender equality policies in research organizations in the higher education sector, the government sector and the business enterprise sector are collected, systematized and analyzed. The present synthesis report, a survey of best practices in the countries of the project partners, contains best practice landscapes and will serve as a basic information tool and foundation for national discussions with the task forces of the GENDERA project, relevant policy makers, decision makers and other stakeholders. This overview will make it easier to capitalize on the practical knowledge available on how to promote gender equality in science and research and how to involve no longer only researchers but also human resources managers and decision makers at the research institutions in gender equality efforts in science and research. The report is very useful for universities, research institutions and other stakeholders striving to implement a new institutional cultural change for a greater inclusiveness of women scientists.

On behalf of the European Platform of Women Scientists EPWS I convey my best wishes to the consortium for a successful project course and a widely spread dissemination of the synthesis report.



Dr. Brigitte Mühlenbruch

*President European Platform of Women Scientists
EPWS*

2 Executive Summary

The improvement of gender equality and equal opportunities in research and development (R&D) is an important objective for European innovation policies. More gender equality and a higher representation of women researchers in R&D will contribute to a better innovation performance of the European Research Area. The FP7 funded project "GENDERA – Gender Debate in the European Research Area" aims to re-address the equality of gender within research organizations and higher education institutions across Europe. The GENDERA partners have collected, systemized and analyzed 61 good practices on gender equality in research organizations and higher education institutions. These initiatives show positive effects on the participation of women in R&D and on changes towards more gender equal organizational and working cultures.

The categorized descriptions of good practices that already promote gender equality in R&D-organizations, serve as a valuable and practical resource easily accessible via an online, free and open database on the GENDERA homepage.

This synthesis report presents the good practices and the conclusions to be drawn from diverse collection. In addition to pointing at proven effective practices already existing in the GENDERA countries, it identifies those barriers to gender equality that can be tackled by the appropriate tools or instruments, all this within a culture sensitive context.

Criteria for good practice

The GENDERA project team agreed on five criteria of good practice:

1. A good practice initiative has to be successful,
2. its impact should be sustainable,
3. it should be embedded into a systematic approach or wider strategy,
4. it should be transferable to another country or R&D sector and
5. it should incorporate innovative elements.

A gender equality initiative was assessed as good practice if it satisfied four out of these five criteria. All together 61 good practices have been so far identified; they form the foundation of this synthesis report. This collection is not to be regarded as a mapping of all gender equality initiatives in the partner countries, nor were GENDERA partners instructed to detect all. This is a selection of good practices chosen by the nine GENDERA partners, to serve as basis for analysis and comparison for the community of learners and policy makers committed to improve the state of women in science.

Heterogeneity of GENDERA Countries

The GENDERA consortium consists of partners from nine different countries:

- Austria
- Germany

- Greece
- Hungary
- Israel
- Italy
- Slovakia
- Slovenia
- Spain

These countries show heterogenic characteristics of gender equality concerning the participation of women in the labour market, the availability of child care services or women in leadership positions. All nine countries show quite a high potential of growth in the gross domestic product (GDP) that can be realized only if full gender equality in the labour market is accomplished. Slovenia has the lowest (14% of GDP) and Greece the highest potential of growth (41% of GDP) of all nine GENDERA countries. The other countries show quite similar growth potentials (between 27% and 32% of GDP). This indicates that in all GENDERA countries gender inequalities are still quite significant and that a male breadwinner model, albeit in a more moderate version, is still dominant (maybe with the exception of Slovenia) and influences different social, economical and political spheres.

The nine GENDERA countries differ in respect to their innovation system too. R&D intensity is highest in Israel (4.7%), Austria (2.6%) and Germany (2.5%). In these countries the R&D intensity is above the EU27 (1.8%) average. All other GENDERA countries range below the EU27 in respect to their R&D intensity. Differences are also notable in the representation of women researchers in R&D: Germany and Austria show the lowest proportion of women researchers in R&D and are the only GENDERA countries which fall below the EU27 average. The highest participation rate of women researchers is to be found in Spain and Slovakia.

These differences and others between the nine GENDERA countries need to be kept in mind while reading the synthesis report, as each initiative is rooted in a cultural, economic and political context, addresses specific local barriers and target groups and stems from motives that might have a local colour. These enlightening dissimilarities are presented in the report.

To conclude, our comparative analysis reveals certain conditions and characteristics of good practices, that contribute significantly to their success and should be considered at the onset of all initiatives and projects to improve the situation of women in science:

- External funding is immensely helpful in initial stages of an initiative and can have a considerable impact on the process of gradual integration into the regular budget of R&D-organizations. In Austria in particular the provision of funding for gender equality initiatives in R&D corporations (FEMtech) is very helpful.
- The higher the inclusiveness of a gender equality initiative, the greater the probability of success. This means that gender equality initiatives should appeal not only to women

but also to men and should point at future benefits for all in order to avoid or at least minimize resistance and stigmatization. Such inclusiveness is notable in particular in initiatives which are focused on the improvement of work-life-balance or on changes in organizational and work cultures.

- The particular needs and demands of the target groups need to be identified and addressed by good practice initiatives and the choice of relevant and appropriate tools is required. A good practice initiative should also enable and encourage participatory processes in which the target group can point at the members' needs and demands and can reflect in real time on the experience.
- Continuous assessment, monitoring and ongoing formative evaluation of the progress and results of every initiative are necessary to establish high quality project management. This increases the likelihood that relevant issues that have an effect on the possible success or failure are identified and can be addressed in the course of action. Success is desired not only for the benefit of the particular group involved, but also to justify the principles at the basis of such actions adopted to advance women in science.

This report is offered as a starting point for further analysis and discussions. For that reason we invite all readers to join the debate on gender equality in research. Get involved and contact one of the GENDERA partners!

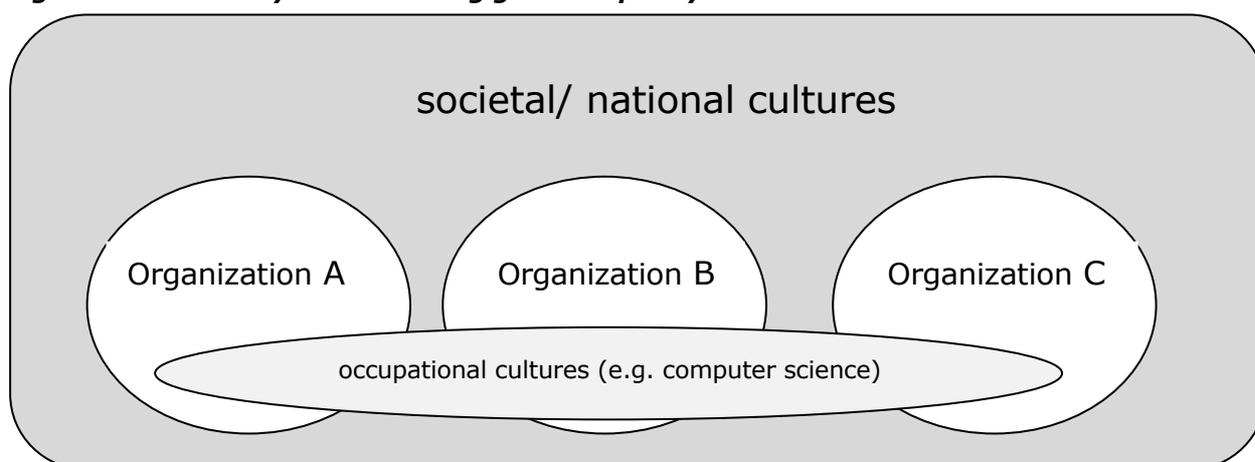
www.gendera.eu

3 Introduction

Gender equality is an important factor for developing and increasing scientific output and excellence in research and development in Europe. Therefore, to promote gender equality means to contribute to better innovations, higher quality and competitiveness of science and research. More gender equality in the labour market enhances economic growth and employment (cf. Löffström 2009). There are major benefits to be gained from raising gender equality.

The EU funded Project "GENDERA – Gender debate in the European Research Era" aims to facilitate the implementation of gender balance and equality in Research and Development (R&D). Its main objective is therefore to create an enabling environment to integrate gender dimension into science policy throughout Europe. The first step undertaken by all partners of the GENDERA consortium was to collect good practices on gender equality in research organizations in the 9 GENDERA countries (see Figure 1 below). The good practices had to be implemented by R&D-organizations and should aim to increase the participation of women researchers and to foster the equal distribution of resources and power between men and women in these organizations. The focus of this good practice research was set on organizations and their strategies and tools to promote gender equality in R&D. National programs to enhance gender equality which are conducted by ministries or research funding agencies were not targeted in the good practice research. Thus we have examined the implementation of gender equality initiatives in R&D-organizations and were not interested in other societal layers influencing gender balance in R&D like occupational cultures or characteristics of national societies/cultures (see Figure 1).

Figure 1: Societal layers influencing gender equality in R&D



Source: Soe and Yakura 2008, p. 184

The main objective of this research was to identify not only good practices on promoting gender equality in R&D-organizations but also to identify tools and strategies and to find out the reasons for their success. Therefore we have analyzed the identified and selected good practice initiatives in the GENDERA countries and compiled our results in this synthesis report. The main objectives of this report are:

- to highlight some differences and commonalities between the GENDERA countries in respect to their innovation systems and gender equality in the labour market (chapter 2)
- to introduce the criteria for good practice applied in this project (chapter 3)
- to give an overview of the good practices we have collected (chapter 4)
- to identify the barriers addressed and tools that adequately tackle them (chapter 5)
- to communicate the benefits for R&D-organizations engaging in gender equality initiatives (chapter 5)
- to emphasize basic conditions of good practices on gender equality in R&D-organizations (chapter 6) and
- to give short descriptions of each GENDERA country and the good practices identified (annex 1).

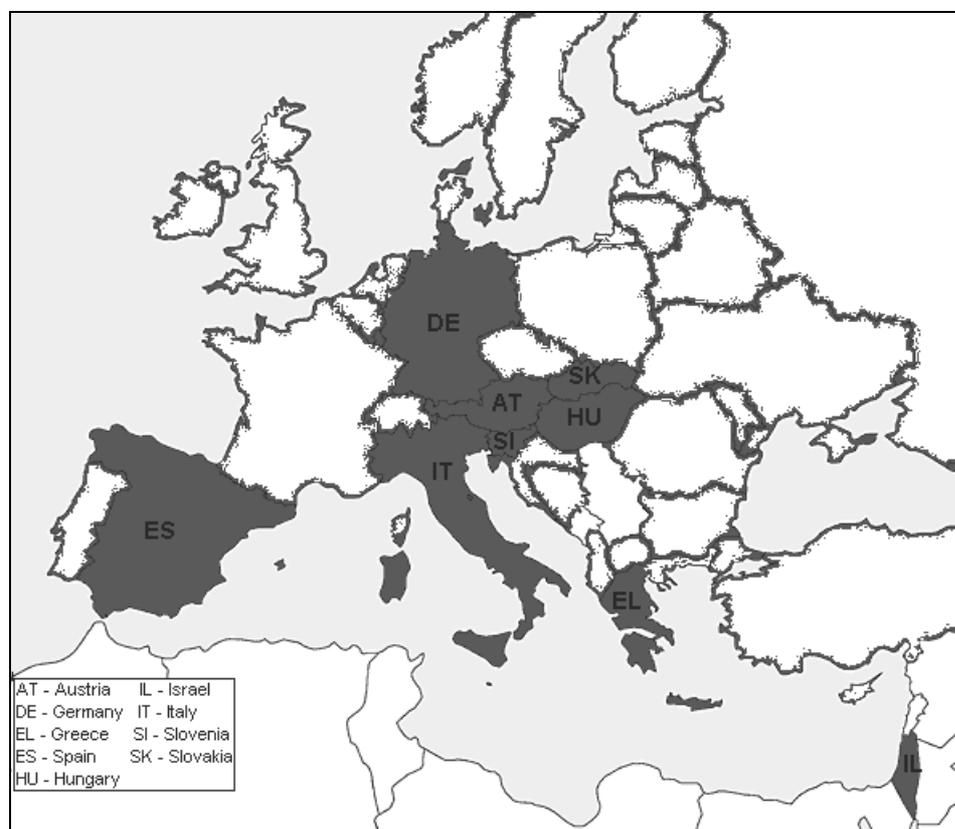
The scope of the GENDERA project did not allow a mapping of all good practices in each partner country to be conducted. We have limited ourselves to gather information only on selected good practices. The selection was based upon the expert knowledge on gender equality initiatives in R&D-organizations of each national GENDERA partner. The result is therefore not a mapping of all existing good practices in the GENDERA countries but a selection of good practices based on the expertise of all partners. The good practice collection contains a variety of initiatives, tools and measures. It is not representative in relation to gender equality practices in R&D in each GENDERA country but it gives a good overview of different initiatives applied in different R&D sectors, aiming at different target groups, deploying different strategies and tools etc. Overall 61 good practices were collected. But this report only contains descriptions of some of the good practices. All good practices that have been collected are available in an online database which can be accessed on the GENDERA website (www.gendera.eu).

4 The countries of the GENDERA consortium

The GENDERA consortium consists of nine partners from nine different countries. There are 8 Partners from EU countries and one from outside the EU (Israel). The EU-members can be geographically and culturally classified as southern and middle/central European states:

- Austria
- Germany
- Greece
- Hungary
- Israel
- Italy
- Slovakia
- Slovenia
- Spain

Figure 2: GENDERA countries



The GENDERA consortium therefore represents a quite heterogeneous variety of European countries and one non-European country. This heterogeneity concerns not only general social, cultural and economic indicators but more specifically of course the structure and size of the R&D systems as well as the realization of gender equality and equal opportunities. Even though 8 out of 9 countries are members of the European Union they show different starting points and path dependencies with regard to the level of implementation of equal opportunities. Anne-Sophie Godfroy-Genin has described this situation in the following way which we think summarizes our starting point very well:

"In all the countries we studied we also encountered different legal and social frameworks, varying prestige of the research sector and various levels of gender awareness. Among the different disciplines and sectors, we experienced different cultures as well – quite obviously, a chemist is different from a physicist or an engineer." (Godfroy-Genin 2009, p. 82)

To highlight these societal differences especially with respect to the R&D and innovation system we will use a set of socio-economic indicators ranging from the GDP per capita to labour force participation of women and human resources with higher education.

4.1. SOCIO-ECONOMIC INDICATORS

Gross Domestic Product (GDP) per capita

The gross domestic product (GDP) per capita in the countries of the GENDERA consortium ranged from 64% to 124% of the EU27 average in 2008. The highest GDP per capita can be found in Austria and Germany, whereas in Slovakia and Hungary it is the lowest of all nine countries.

Employment rate for women

In 2008 59% of all women aged 15 to 64 were employed in the EU27 – compared to 73% of all men. The difference between employed men and women in the EU27 is still significant – it amounts to 14%-points. The highest participation of women in the labour market can be found in Austria, Germany and Slovenia with around 65%. The lowest is in Greece, Italy and Hungary where it lies under 50%. The national differences between the employment rates for men are not as distinct as they are for women. The degree of labour market participation of women can be interpreted as a socio-economic indicator for still existing gender inequalities.

Women in part-time work

Women tend very often to work part-time – the EU27 average share is 31%. But the share of women working part-time varies quite a lot between the countries of the GENDERA consortium: it is very high in Germany and Austria where it exceeds the 40% benchmark.

In Spain and Italy the share reaches 23% and 28% respectively. In all other countries the share is lower than 11%. It is possible to differentiate three groups of countries along the share of part-time employment of women:

- group 1 consists of Austria and Germany with a high share
- group 2 is characterized by an average share between 20% and 30% and includes Spain and Italy
- group 3 has a very low share of part-time employment of women (under 11%) and includes Greece, Slovenia, Slovakia and Hungary.

Total fertility rate is low

Another informative indicator which is positively correlated to female employment is the total fertility rate (Biffl 2007). It does not have a range as wide as other indicators, so the differentiation of the countries according to the total fertility rate is slighter. It lies between 1.32 for Slovakia and 1.53 for Slovenia. The exception is Israel with a total fertility rate of 2.96.

Availability of child care services

An important factor affecting the opportunity especially of mothers' (but also of parents' in general) to participate in the labour market is the provision and availability of formal child care services. The enrolment in formal child care of children aged between 0 and 3 varies considerably between countries. The participation rate is highest in Spain (34%), Slovenia (33%) and Italy (29%). In Slovakia, Austria and Hungary only 5% and 11% respectively of children fewer than 3 years are enrolled in child care facilities. The low availability of child care facilities for small children is a barrier especially for women for their quick re-entry after maternity or parental leave. In countries like Sweden or France the enrolment rate is over 40% of children aged between 0 and 3. The positive correlation between the female employment and the fertility rate is caused by the organization and funding of public child care:

„Countries that provide ample access to (heavily subsidized) child care facilities provided by the state or private institutions tend to have a higher fertility rate than countries which tend to relegate child care to the household.“ (Biffl 2007, p. 8)

Employment rate for women with children

The employment rate for women between 25 and 49 years of age with children fewer than 12 years tends to be significantly lower than for women in the same age group without children. Slovenia is the only exception where the difference between the employment rate for women with or without children is insignificant. This is an indication of good

opportunities for reconciling work and care responsibilities. The difference between the employment rates are considerably high in Hungary (28%) and Slovakia (25%). In the rest of the GENDERA countries the difference corresponds approximately with the EU27 average which lies at 12%.

Considering the employment rate of men, the ratio – compared to women – is reversed: The employment rate for men with children is higher in all GENDERA countries than that of men without children. This signifies very clearly that men are not confronted with reconciliation challenges/demands.

Inactivity or part-time work due to lack of child care services

In 2008, 30% of the total female population with care responsibilities were working part-time because of a lack of care services for children or other dependent persons. The share of inactive or women in part-time work is significantly high in Greece (69%), Spain (60%), Slovenia (58%) and Germany (44%). The share for Hungary is located around the EU27 average. Italy, Austria and Slovakia range clearly below the EU27 average. This is a clear signal that the availability of child care facilities is restricted in most of the GENDERA countries. Insufficient publicly available child care services are a substantial barrier to the participation of women in the labour market and contribute to the continuance of dominant patterns of gender specific divisions of labour.

Women in leadership positions

Most businesses in the EU27 countries are run by men: Only one third of business leaders are women. The majority of the GENDERA countries range around the EU27 average. Only Slovakia (25%) and Hungary (29%) show a slightly lower share of women business leaders. Considering the employment rate for women in EU27 member states, the conclusion is quite clear: women are more likely to be employed in junior positions than in leading positions.

The EU27 average share of women in the highest decision making bodies of the largest publicly quoted companies is 11%. Slovakia (18%), Germany (13%) and Hungary (13%) are ranked above the EU27 average. Spain and Slovenia show a participation of women in these decision making bodies of 10%, whereas Austria (7%), Greece (5%) and Italy (4%) have a very low ratio of women to men.

In all countries of the GENDERA consortium, women are significantly underrepresented in high decision making bodies of large publicly quoted companies. Thus they are far from reaching a critical mass of 30% women in decision making bodies which is described as a precondition *"for women to exert meaningful influence on politics"* (European Commission 2008b, p. 5) and for organizational change. Women are not represented accordingly in leadership positions in the business sector or in politics. Therefore they are not able to express and follow their interests in the same ways and to the same degrees as men.

Gender pay gap

The Gender Pay Gap is the result of different inequalities especially in the labour market but also in a wider socio-economic context. It is a very much debated but nevertheless informative structural indicator for gender inequalities. In the GENDERA consortium we can identify three groups of countries

1. with high gender pay gaps ranging between 21% and 26% (Austria, Germany, Greece and Slovakia)
2. with average gender pay gaps around 17% (Hungary and Spain)
3. with low gender pay gaps between 9% and 5% (Slovenia and Italy)

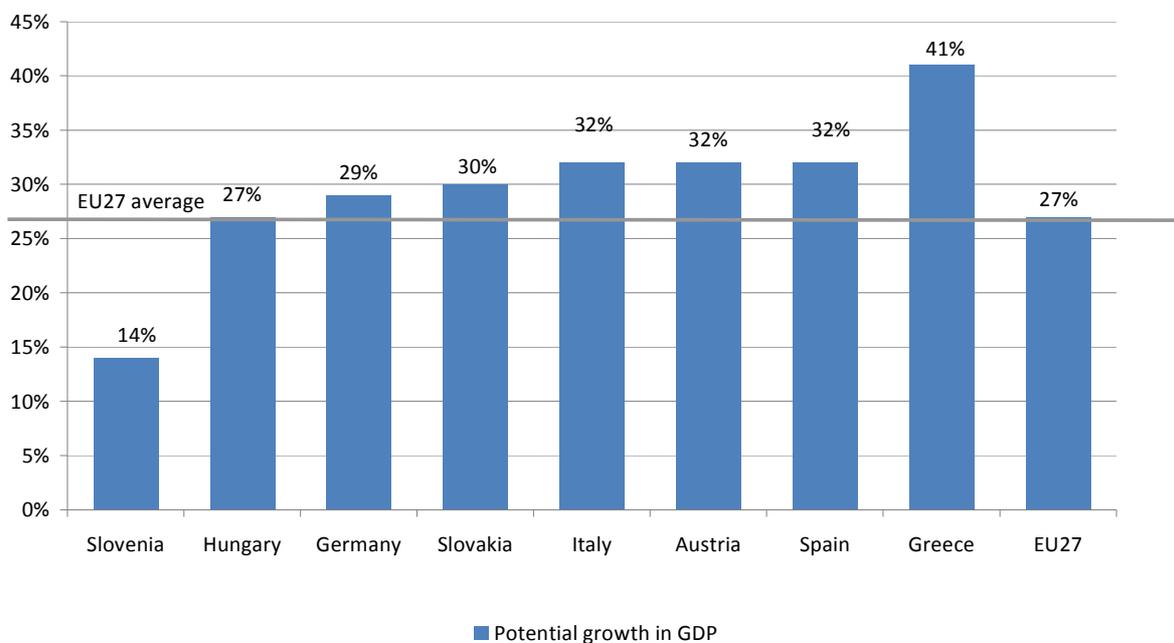
Italy has the lowest gender pay gap: Italian women earn only 5% less than men. In contrast, the gap is highest in Austria: it amounts to 26% of wage difference.

Potential for GDP growth

A very useful indicator for the realization of gender equality was recently introduced by the European Commission: the potential growth in GDP following a transition to full gender equality in the labour market. Gender equality is a driver for economic growth. If more women have the chance to participate in the labour market this will lead to a growth in GDP (see Löffström 2009). The figures for this indicator estimate the potential growth in GDP that would follow the transition to full gender equality in the labour market (European Commission 2010a, p. 36). A higher potential increase in GDP means that the existing inequalities especially in the labour market are very significant, whereas a lower potential growth in GDP indicates that hardly any inequalities exist anymore. The ranking of the GENDERA countries is represented in Figure 3. It is quite apparent that the inequalities measured by this indicator are quite evenly distributed between the countries with two exceptions on each side of the distribution. Slovenia has a very low growth potential which indicates a lower level of gender inequalities. At the other end of the distribution is Greece with the highest potential for growth in GDP following the elimination of gender inequalities. Therefore the gender inequalities are much more pronounced in Greece than in the other GENDERA countries¹.

¹ This indicator is not available for Israel.

Figure 3: Potential growth in GDP following a transition to full equality in the labour market, in % of GDP



Source: European Commission 2010, p. 36

Results of the Gender Gap Report 2009

The potential growth in GDP indicator – as described above – is focused on gender inequalities in the labour market. In contrast the Global Gender Gap Report 2009, published by the World Economic Forum measures, existing gender inequalities in four dimensions (World Economic Forum 2009):

- economic participation and opportunity
- educational attainment
- political empowerment
- health and survival

It gives a more comprehensive insight into existing inequalities between the GENDERA countries. It is not very surprising that the results of this multidimensional ranking are different compared to the one dimensional indicator. The highest ranked GENDERA countries – with the lowest gender gaps – are Germany (12) and Spain (17). The next group consists of Austria (42), Israel (45) and Slovenia (52) followed by Hungary (65), Slovakia (68) and Italy (72) which constitute a third group. Greece occupies rank 86, which indicates the most pronounced gender gaps within the GENDERA consortium.

If we look at the results in more detail along the four dimensions of measuring gender gaps we can observe the following characteristics:

- The high overall ranking of Germany and Spain results from their high ranking in the dimension “political empowerment”. In all other dimensions their rank is average – compared to the other GENDERA countries – at best.
- Austria has the lowest ranking of all GENDERA countries in the dimensions economic participation and opportunity as well as educational attainment. In the other two dimensions Austria shows little inequalities compared to other countries – even though inequalities in politics are quite significant.
- Slovenia is the best ranked GENDERA country concerning economic participation and opportunities for women. This corresponds well with the results of the potential growth in GDP indicator.
- Hardly any inequalities can be found in the educational attainment and integration of women into health services in Slovakia. Slovakia ranks first (a position shared with other countries) in both dimensions. The ranks in the other two dimensions are only average.
- Greece does not show any exceptionally good ranking in any one dimension, even though there are hardly any inequalities in the educational and health dimensions. On the other hand the political empowerment of women in Greece is – according to the World Economic Forum – virtually non-existent. Politics is a male-only domain.
- Israel shows good to average results compared to the other GENDERA countries in three dimensions: economic participation, education and politics. Only in the health dimension it has a considerably low rank but the score indicates hardly any existing gender gaps.
- The results for the health dimension and the economic participation of women in Hungary are average compared to the other GENDERA countries. But the ranks for educational attainment and political empowerment of women are quite low. There are not many women in the Hungarian parliament and government which result in a quite low rank in this dimension.
- Italy has the second lowest overall rank of all GENDERA countries. Its results are especially low in two dimensions: economic participation and health. Whereas in the education and political empowerment dimensions the ranks are average compared to the other GENDERA countries.

In general it can be diagnosed that inequalities are quite significant (in all GENDERA countries) in the political and economic dimension. The participation of women in politics is even lower than in the labour market. In the two other dimensions the ranks of the GENDERA countries vary quite a lot but the scores do not. The gender gaps are – in the perspective of the Global Gender Gap Report – very narrow to nonexistent in educational attainment and health and survival.

Summary: Different gender regimes?

Looking at these gender equality indicators makes clear that the GENDERA countries differ quite a lot in the level of gender equality implementation. But there is not a single country which performs particularly well in all categories/indicators. Despite these heterogenic results it is possible to group these countries according to the dominant patterns of gender specific division of labour and the employment rate for women. Both are anchored in the policy making and arrangements of different welfare state models (see Esping-Andersen 1990; Walby 2004). The structure of welfare states *"does not only influence the employment rate of men and women, but also the division of work between market and household work, the mix of part-time and full-time work, occupational segmentation and lifetime earnings."* (Biffl 2007, p. 9)

Welfare state models have a significant impact on the gender specific structure of the labour market and on gender equality in general (see Gillian Pascall and Jane Lewis 2004; Lewis 1999, 2001; Pfau-Effinger 2005). Most welfare state regimes are therefore connected to specific social structures of gender relations or gender regimes. Most welfare models share the notion of a male breadwinner which in short means that women are primarily responsible for house- and family-work while men earn a living through employment in the labour market. This breadwinner model can be arranged more moderately when women are working part-time to earn an additional income for the household. So the labour market participation of women, the share of women working part-time, the employment rate for women with children and the availability of child care services are good indicators which allow approximating different gender regimes underpinning welfare state models of the GENDERA countries. But as the welfare state and gender regimes are constituted by a wider range of institutional, social, political and legal conditions we will refer to categorizations of countries according to their welfare state models from the extensively available literature.

A very common approach which is also used by the European Union differentiates between four models: the Scandinavian model, Anglo-Saxon model, the continental European model and the Southern European model (Biffl 2007, p. 10). The Scandinavian model is the only one where the male breadwinner model is not dominant and is widely substituted by a dual earner model where the employment rate of women and men is significantly higher and the care responsibilities are distributed more equally between both sexes. The Scandinavian countries are therefore often a benchmark for good practices in gender equality. No GENDERA country shows similar characteristics and belongs to the Scandinavian welfare state model. An exception might be Slovenia which shows characteristics of the Scandinavian welfare state model and a more gender equal tendency (see Pascall 2008). Austria and Germany belong to the group of countries with a Continental welfare state model which is often also labeled as conservative or corporate welfare state model. They show moderate results concerning the employment rate of women and a comparable restricted availability of childcare facilities especially for children up to the age of 3. The gender specific division of labour is more visible and distinctive than in Scandinavian countries and the adult breadwinner model is not as common. But

the male breadwinner model is more moderate in Austria and Germany due to a high proportion of women working part-time. Italy, Greece and Spain show characteristics of the southern European welfare state models with a low participation of women in the labour market and family centred provision for child care, income support and unemployment insurance (Biffl 2007). Eastern European countries like Hungary and Slovakia form a distinct group of welfare state models which can be labeled as the post-communist European welfare state model (Fenger 2007). They show a mixture of characteristics of the corporatist and social-democratic models but with fewer elements of the latter one. Post-communist countries like Hungary have a low proportion of employed women compared to Scandinavian countries and to most of the Continental countries (Glass and Fodor 2007). They are characterized by a moderate male breadwinner model and subsidize and support maternalism publicly. Some of the post-communist countries still have legacies of the dual earner model which was dominant in the era of state socialism (see Pascall 2008).

The male breadwinner model which underpinned European welfare states since the post-war era has been challenged by social, political and economic transformations in the late modernity. The share of women entering the labour market rises constantly in the EU27. Births outside marriage are increasing as well as the number of divorces. On the other hand, the total fertility rate and the number of marriages are decreasing while new forms of cohabitation are spreading. These social developments undermine the foundations of the male breadwinner model but only in the Scandinavian countries has a replacement of the male breadwinner model by a dual earner model been witnessed. For the GENDERA countries we can recapitulate that maybe with the exception of Slovenia, the male breadwinner model is still dominant with some more moderate variations. This means that gender inequalities in care and employment are still pronounced but there are apparent tendencies towards more gender equality.

4.2. NATIONAL DIFFERENCES IN R&D AND INNOVATION SYSTEMS

The heterogeneity of the GENDERA countries is also obvious concerning their R&D and innovation systems. The GENDERA countries vary in respect to ...

- the size of the R&D sector,
- their structure and the proportion of women researchers
- development of their innovation systems.

R&D intensity and size of R&D sector

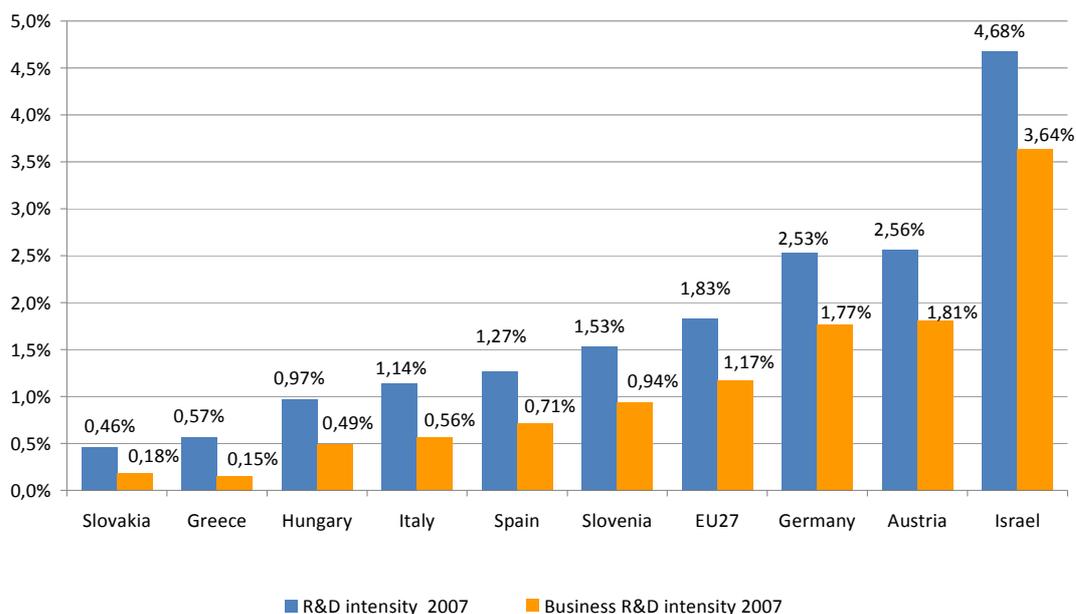
The R&D intensity is measured as the R&D expenditure as a share of the GDP and is an indicator to compare the economic relevance and size of the R&D sector between

countries. Israel has the highest level of R&D intensity with 4.7%² followed by Germany and Austria – they rank significantly above the EU27 average. All other GENDERA countries rank below the EU27. The lowest R&D intensity can be found in Slovakia and Greece (see Figure 4).

The size of the R&D sector can also be measured on the basis of the R&D personnel in relation to all persons employed. This indicator gives us a quite different picture of the size of the R&D sectors in the GENDERA countries. Again Israel is far ahead; its business R&D intensity is twice as high as in Germany or Austria.

The latter countries have the biggest R&D sectors in relation to people employed within the EU27 countries of the GENDERA consortium³. But in all other GENDERA countries the relative size of the R&D sectors is more evenly distributed. The difference between the countries with regard to the share of R&D personnel is not as significant as with regard to the R&D intensity (see Figure 5).

Figure 4: Potential growth in GDP following a transition to full equality in the labour market, in % of GDP

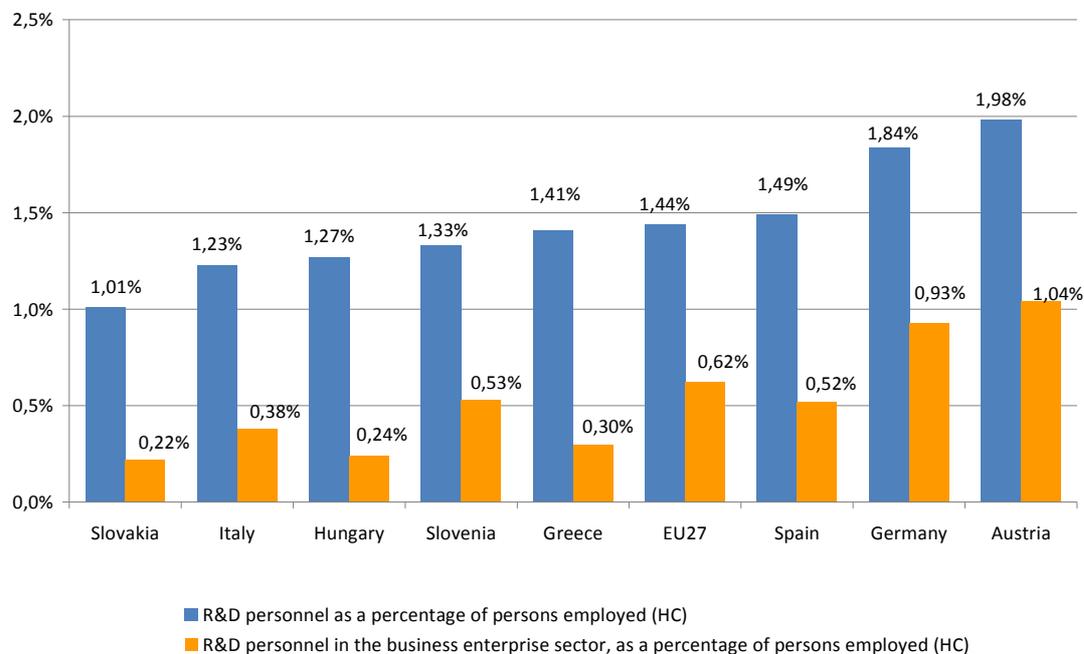


Source: Science, Technology and Innovation in Europe 2009

² Data for Israel is civilian R&D only.

³ No data for Israel available.

Figure 5: R&D personnel in all R&D sectors and in the business enterprise sector, as a percentage of persons employed (HC), in 2005 (in %)



Source: Science, Technology and Innovation in Europe 2009

Importance of the business enterprise sector

In Figure 4 and Figure 5 it also becomes very obvious that the size of the business enterprise sector (BES) varies between the countries. The GENDERA countries can therefore be divided according to the relevance of the business enterprise sector in the innovation system. In Austria and Germany the BES is the most important R&D Sector accounting for more than 70% of R&D expenditures and for more than 60% of all employed scientists in these countries. The BES is also quite important in Slovenia as it comprises 65% of all R&D expenditures and 41% of all employed scientists.

In Spain, Hungary and Italy the R&D expenditures for the BES account for more than 50% but they employ less than 40% of researchers in this sector. Business R&D intensity shows that the BES in these countries is more important than the other R&D sectors. But related to the human resources the higher education sector (HES) is bigger in Spain and Italy.

In Greece and Slovakia the BES is – compared to the other R&D sectors – not as important. The most important sector in these countries is the higher education sector accounting for 58% and 64% respectively of all employed researchers.

So it is possible to cluster the GENDERA countries into 3 groups with respect to the importance of the BES in their innovation system. The first group consisting of Germany, Austria and Slovenia is characterized by a high significance of the business enterprise

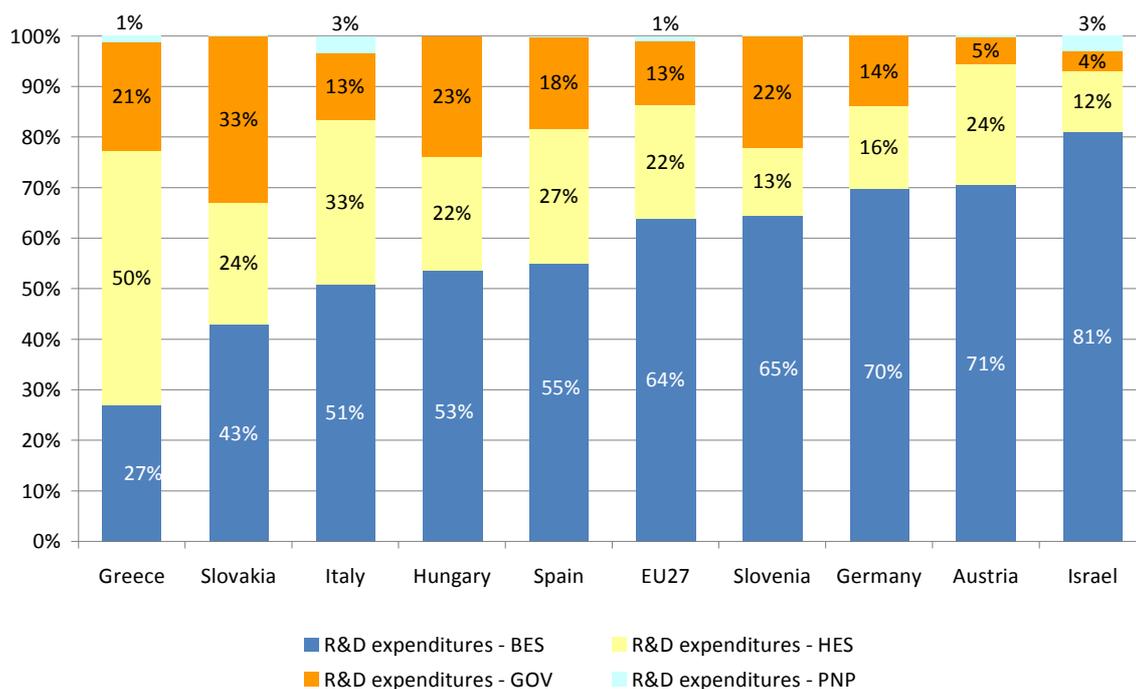
sector. In the second group the BES is of moderate importance and includes Spain, Italy and Hungary.

In the third group the BES is of low importance compared to the other R&D sectors in these countries. Greece and Slovakia form the group of countries with a low importance of the BES sector.

The governmental sector is very prominent in Slovenia, Hungary and Slovakia: In these countries more than 20% of researchers are employed in this sector. The share of researchers in the governmental sector is quite low in Austria, Greece and Germany.

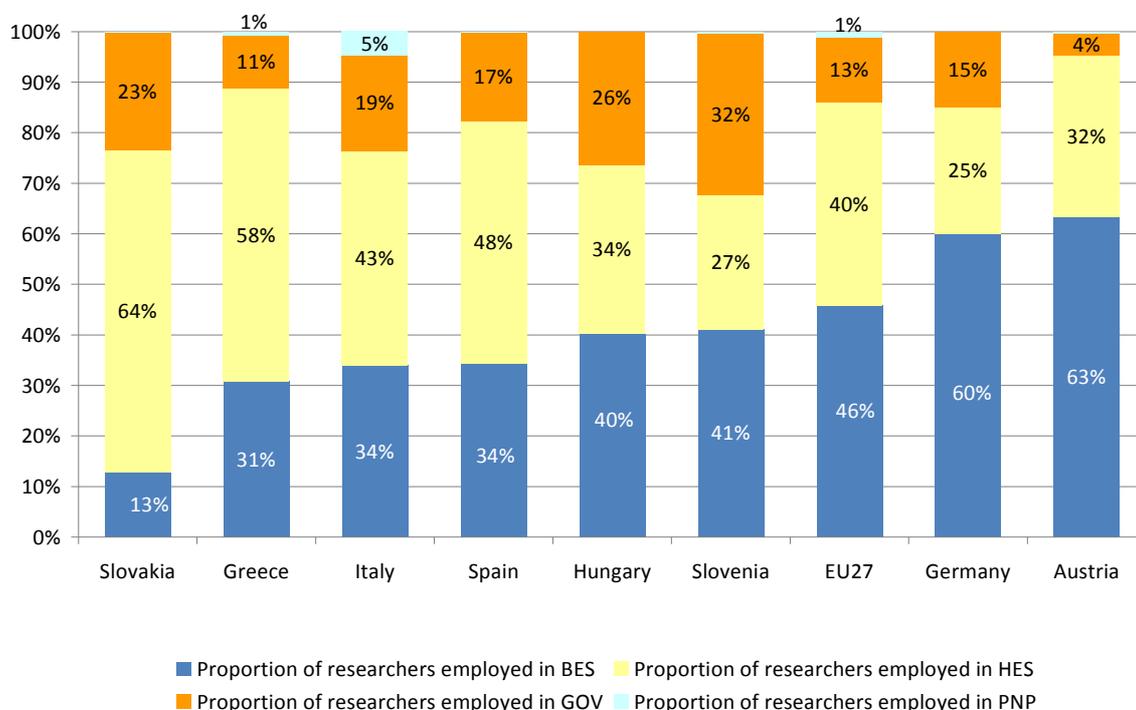
The proportion of researchers in the higher education sector is very high in Slovakia and Greece – in Slovakia 64% of all researchers are employed in the HES and in Greece the share is 58%.

Figure 6: Share of R&D expenditures performed by R&D sectors and countries, in 2008 (in %)



Source: Eurostat & OECD

Figure 7: Proportion of employed researchers for R&D sectors and countries, in 2007 (in %)



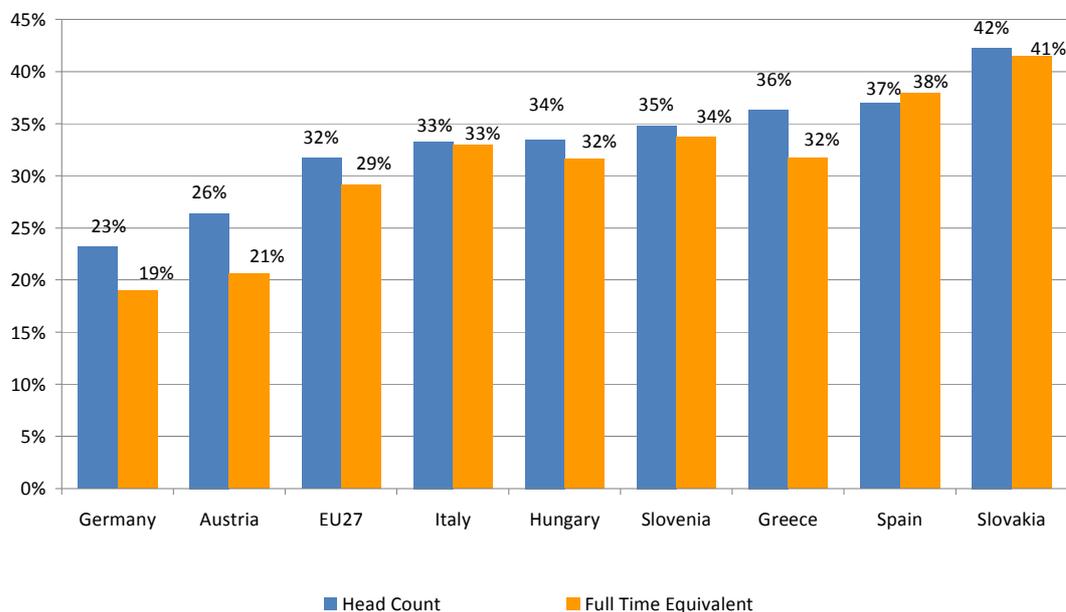
Source: Eurostat

Proportion of women researchers

There are significant differences between the proportions of women researchers in R&D in the countries of the GENDERA consortium. In the majority of the GENDERA countries the proportion of women researchers is located above the EU27 average. There are only two countries which rank below. These are Germany (23%) and Austria (26%). The highest proportion of women researchers can be found in Slovakia with 42%. For all other countries the share of women researchers ranges between 33% and 37% (see Figure 8).

The difference between the share of women researchers counted in head counts or full-time equivalent is also very informative: The difference is very distinct in Germany, Austria and Greece, where it ranges around 5 percent points. Although the R&D sector is characterized by a high ratio of full time employment, the share of women researchers working part time is quite high in Austria, Germany and Greece. The percentage of women in Austria and Germany in part time work is significantly higher than in all other GENDERA countries.

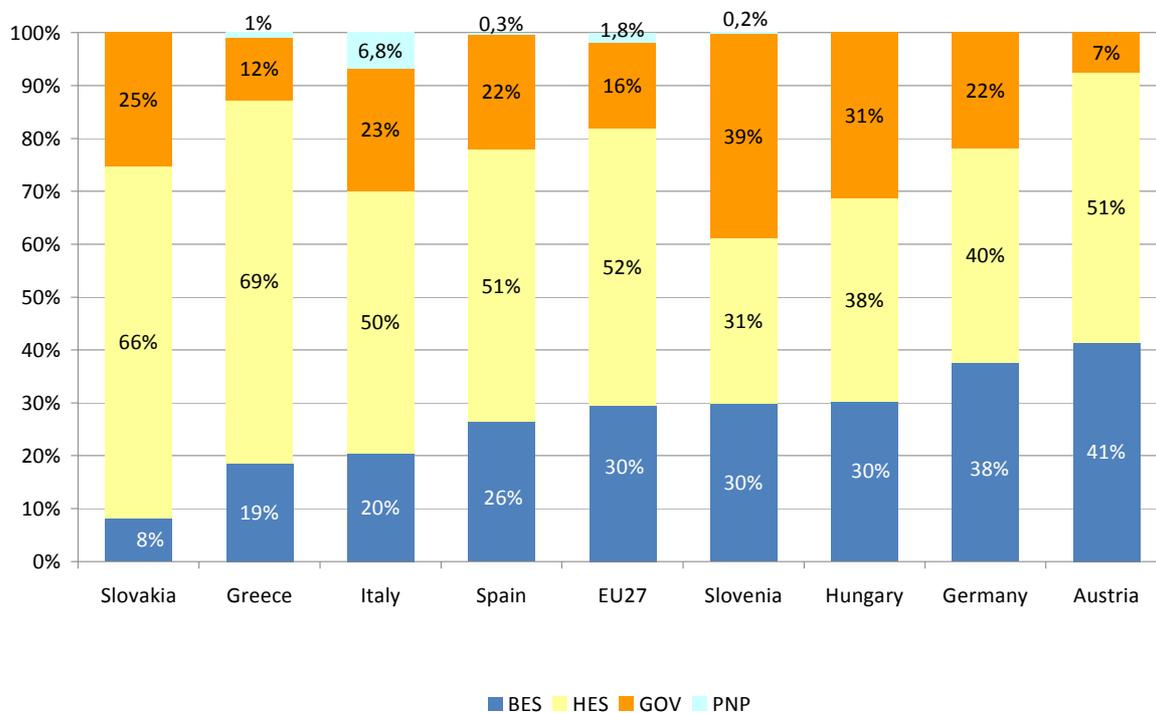
Figure 8: Proportion of women researchers in R&D, in 2007 (in %)



Source: Eurostat

Most women researchers in the GENDERA countries work in the higher education sector. Only in Slovenia the majority of women researchers is employed in the governmental sector (GOV). Interestingly, the higher education sector is also the most important employer for women researchers in Austria and Germany where the business enterprise sector is the most important R&D sector in respect of R&D expenditure as well as of the number of employed researchers (see Figure 9). The employment of women researchers follows different patterns than that of men. Women researchers are more concentrated in the R&D sector where public influence is strong but also where the R&D expenditures are low (European Commission 2008a, p. 22). The share of women researchers tends to be higher in countries where salaries in science and in general are lower (Ruset-Archambault et al. 2008, p. 23).

Figure 9: Distribution of women researchers in R&D sectors, in 2007 (in %)



Source: Eurostat

Seniority and glass ceiling

Women researchers are seldom promoted and appointed to senior levels and management positions. Therefore they are underrepresented in the top level management of research organizations. There is hardly any data available to demonstrate this fact for the whole R&D sector. The available data comes mostly from the higher education sector. The share of women researchers in the highest level of an academic career (grade A) ranges in the GENDERA countries between 20% in Slovakia and 11% in Greece. The EU27 average is around 19%. The difference in percent points between the share of women in academic staff grade C and grade an amounts to 31% points in Slovakia and 21% points in Greece. In some countries of the GENDERA consortium there are up to 50% women researchers employed as grade C academic staff in the Higher Education Sector (Slovakia, Spain, Slovenia, Italy and Hungary). In Austria, Israel, Germany and Greece the share of women is below 40%. But, independent of how many women enter academic careers, women researchers are still underrepresented in top level positions in the higher education sector in all GENDERA countries – presumably it is not wrong to assume this is also the case in other R&D sectors.

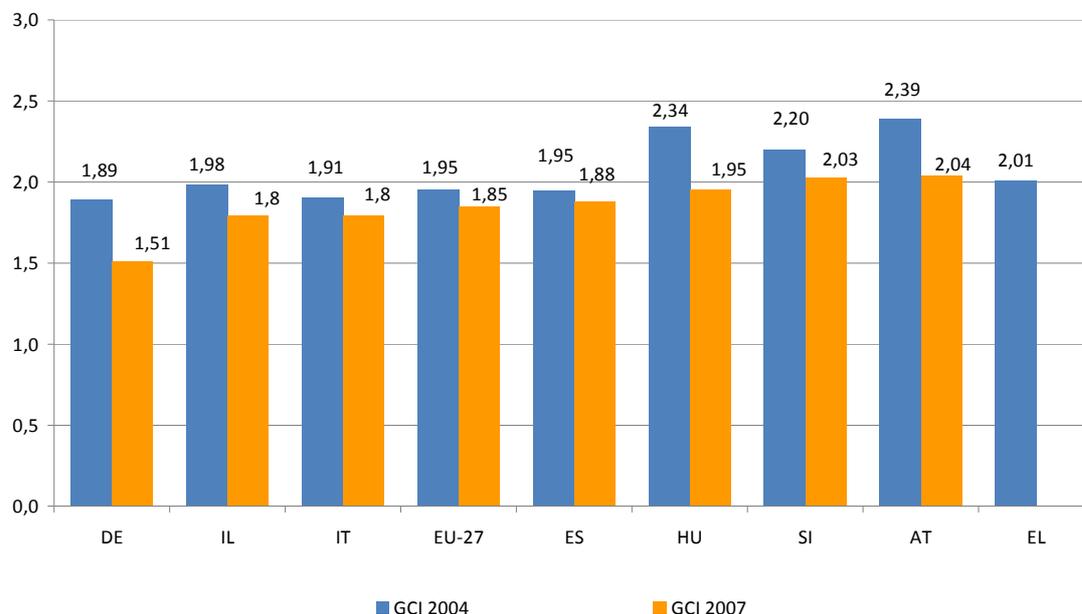
Table 1: Proportion of women academic staff by grade and total, in 2007

	Grade A	Grade B	Grade C	Grade D	Total
Greece	11	23	32	39	29
Germany	12	18	33	38	33
Israel	13	22	36	46	26
Austria	14	19	40	41	35
Slovenia	17	30	46	45	35
Spain	18	36	48	52	43
Italien	19	34	45	:	33
EU-27	19	36	44	44	38
Hungary	19	32	45	39	37
Slovakia	20	35	50	55	43

Source: She figures 2009

The glass ceiling index (GCI) is the indicator which shows the underrepresentation of women researchers in top level positions. In the higher education sector the GCI has decreased between 2004 and 2007 (see European Commission 2009, p. 68). All GENDERA countries range around the EU27 average which is 1.8. The only exception is Germany with a GCI value of 1.5 (see Figure 10). Women researchers are less likely (then men) to get into top level management or research positions.

Figure 10: Glass ceiling index for the higher education sector, 2004 and 2007



Source: She figures 2009

Innovation performance and gender equality

According to the European Innovation Scoreboard (EIS) 2009 (European Commission 2010b) the countries of the GENDERA consortium are quite diverse in regard to their innovation performance. Germany is the only GENDERA country in the group of EU27 innovation leaders. Austria and Slovenia fall into the group of innovation followers which rank closely to the EU27 average results. All other GENDERA countries (Greece, Hungary, Italy, Slovakia and Spain) are part of the group of moderate innovators with an innovation performance below the EU27. None of the GENDERA countries is labeled as a catching-up country (European Commission 2010b, p. 12). Israel is not included in the comparative assessment of innovation performance in the EU27 by the European Innovation Scoreboard 2009. But the available indicators of the main science and technology indicators of the OECD database show Israel's high innovation performance. It shows outstanding results in a number of innovation indicators and its innovation system is a key driver of economic growth and competitiveness (see OECD 2008, p. 170f.) It can therefore be ranked among the group of innovation leaders (see Table 2).

Table 2: Innovation performance of GENDERA countries

Innovation performance	GENDERA countries
Innovation leaders	Germany, Israel
Innovation followers	Austria, Slovenia
Moderate innovators	Greece, Hungary, Italy, Slovakia, Spain

Source: EIS 2009, p.12

Although the European Innovation Scoreboard does not include an indicator for gender equality there is some evidence that EU27 countries with a higher innovation performance have a lower participation of women researchers in R&D: Countries with a low level of R&D expenditure per capita show for the most part a higher share of women researchers (see European Commission 2009, p. 102). A recent report published 2008 by the European Commission differentiates between two groups of EU27 countries with regard to the development of their innovation system and to the share of women researchers in R&D (Ruset-Archambault et al. 2008, p. 21):

- higher innovation systems
- lower innovation systems

The higher innovation systems include the innovation leaders and followers from the European Innovation Scoreboard 2009 (Germany, Austria, Slovenia and Israel) whereas the lower innovation systems comprise basically the moderate innovators (Greece, Hungary, Italy, Slovakia and Spain). The development level of innovation systems is quite a good predictor for the proportion of women employed in R&D: Countries with lower systems of innovation show higher proportions of women in R&D and higher systems of innovation are characterized by lower ones. The business enterprise sector is especially important in higher innovation systems and is therefore bigger regarding R&D expenditure as well as R&D personnel than in lower systems of innovation. The size of the business enterprise sector is a good determinant of the proportion of female researchers:

"(...) it suggests that in countries where research is focused on the private sector, there are also relatively fewer women researchers than in countries where research is focused on the public sector." (Ruset-Archambault et al. 2008, p. 25)

Lower innovation systems with less R&D expenditures and a smaller private R&D sector have a higher proportion of women researchers than higher innovation systems. But the latter can be further differentiated into two subgroups: into countries with high R&D expenditures showing higher shares of female researchers and are therefore classified as good practices. The other countries show significantly lower shares of women researchers but high R&D expenditures (see Ruset-Archambault et al. 2008, p. 22). The good practice countries are basically Scandinavian countries. They can be classified – along a grouping

suggested by the WIRDEM working group (European Commission 2008a, p. 8) – as “countries with good policies and good results”. In these countries there are good child care systems, taxation rules that do not disadvantage double-income families, systems of targets and quotas etc. The male breadwinner model is not as strong as in other countries. The second subgroup of countries with higher innovation systems can be labeled as “countries with good policies but weak results”. They show a lack of gender equity in decision making bodies and in appointment to higher positions, child care facilities are only partly available and taxation rules encourage women even if they are highly qualified to stay at home and not to enter the labour market.

Countries with lower innovation systems can be differentiated into “countries with recently-introduced good policy and strong family support” which compensates for the restricted availability of child care services. Most Mediterranean countries fit into this group. Spain is one example of a country which has recently introduced good policies which were adopted from Scandinavian countries, but it is still too early to measure the results of these new policies. The other group of lower innovation systems is constituted by “countries with weak policy and weak commitment”. They are characterized by relatively good child care provisions and a high proportion of women in the labour force. Therefore they show high proportions of women researchers and of women in management positions but they lack gender awareness and gender equality is not at the top of the political agenda (for this categorization see European Commission 2008a, p. 8).

In short it can be seen that higher systems of innovation are countries with good gender in science policies but that not all countries are showing good results. Especially Austria, Germany and Slovenia belong to the group with weak results. The high level of awareness of gender equality and the differentiated measures to promote women in R&D do not correspond with higher shares of women researchers in these countries. The promotion of gender equality is an important strategy to improve the innovation performance for those countries that already have a highly developed innovation system. To promote gender equality and equal opportunities means further development and growth of the innovation system. For countries with lower systems of innovation (moderate innovators and catching up countries) this will be a challenge in the near future because as they become more developed they will also have to progress in their commitment to gender equality to facilitate all available human resources to increase their innovation performance (see Ruset-Archambault et al. 2008, p. 38).

But we clearly see that not all countries with a highly developed innovation system and good policies are achieving good results. There are two main reasons why good policies do not translate directly into good results. The first one is that success depends very much on the societal conditions of gender equality. These conditions constitute a difference at a macro level between Scandinavian countries on the one hand and Germany or Austria which display weak results on the other hand. It is very important to keep in mind that not all GENDERA countries share the same level of gender equality or the same awareness-level for gender inequalities. The second reason relates to the implementation of gender equality measures in R&D-organizations. This is not causative related to the level of

development of innovation systems but different forms and intensities of implementations of gender equality initiatives have of course an impact on the realization of its objectives. Therefore it is important to identify practices with high impacts, sound implementation and to point out the reasons and factors that contribute to good results and practices.

Although we have identified countries with different levels of gender equality in society, labour market and in the R&D sector these differences do not correspond directly to differences in barriers and problems of women researchers in the R&D sector. Despite these different national contexts and settings there are similar barriers which prevent women from entering or progressing in R&D careers. Varieties between countries exist mostly only in the extent, size and significance of these barriers which is a key result also of other research projects (see Godfroy-Genin 2009, p. 88). Within the scope of the GENDERA project we have identified diverse barriers (see chapter 7) which are addressed by the different good practice initiatives we have identified in the GENDERA countries.

5 What is good practice: A short methodological description

The project was interested in investigating good practice on gender equality in R&D-organizations in the business enterprise sector, the higher education sector, the private non-profit sector and the governmental sector. The term good practice is often associated with effective practice or practice that promises results, but in reality these terms all mean slightly different things to different people. Without establishing benchmarks and criteria for evaluation, views about whether practice is good or best are essentially subjective. For our purposes we have defined 'good practice' as approaches that are

- working well (success)
- show sustainable results
- are embedded in a wider perspective on gender equality or gender mainstreaming
- can be duplicated in other relevant contexts and
- have an innovative character or element.

An initiative is nothing abstract. It is a measure implemented by an R&D-organization which wants to promote gender equality. The R&D-organization forms the context of an initiative in which it acts and sustains. Therefore we decided to investigate the implementation of good practices on gender equality in R&D-organizations.

The aim of this part of the GENDERA project was not to gather a high quantity of different measures and initiatives. It rather collected specific information on selected good practice examples. Therefore it relied on the expertise of each national partner who has a wide knowledge on gender equality initiatives and measures in her/his country. On the basis of this specific expertise the national partners preselected gender equality measures in the R&D sector, which have already been evaluated as good practice, are showing outstanding results or are using a promising and new approach. For this preliminary selection of measures an intensive information enquiry was carried out by each national partner. On the basis of the collected information the measures and initiatives were assessed as good practice.

What kinds of initiatives were collected?

- a. The initiatives relevant for this investigation are promoting gender equality in R&D-organizations. They are operating on a structural or individual level but they can also aim at raising gender awareness or enforcing gender in research. For example a structural initiative could be enforcing basic conditions enhancing gender equality, implementing gender equality in organizational structures etc. Individual initiatives

are focusing more on qualification, career and trainings for women and are targeted at the empowerment of women.

- b. R&D-organizations which are of interest in this project are located in the business enterprise sector (BES), the higher education sector (HES), the private non-profit sector (PNP) or the governmental sector (GOV).
- c. The following list can be subsumed under R&D-organizations:
- R&D corporations (SMEs and large corporations),
 - non-university research institutions,
 - R&D institutions of the higher education and the governmental sector like universities or universities of applied sciences.

The initiatives are conducted and realized by these R&D-organizations and/or in cooperation with other R&D-organizations, institutions or stakeholders.

- d. The main focus of these initiatives lies on scientific/research personnel and the advancement of gender equality in R&D in general. Good practice initiatives can focus on qualification, recruiting, retention, women in leadership or managerial positions, gender wage gap, work-life-balance, working time regulations, promotion of gender awareness, working culture, gender in research and curricular, etc.
- e. Initiatives considered should not only be located in different R&D sectors but should also be targeted at different career stages. For the collection of information on good practices we have distinguished four distinct career stages:
- Pre-University: Kindergarten, School: Initiatives which focus on promoting the interests of pupils and children – especially girls – in science and technology and which try to overcome societal and mental barriers like gender specific stereotypes etc.
 - Qualification: Higher education until doctoral degree: Initiatives which promote female students in science and technology by mentoring programs, development of new curricular, equal opportunities officers etc.
 - Career entry: Persons who will finish their scientific qualification soon (doctoral degree) and/or have recently entered or will be entering the labour market soon to start a scientific career. This includes mainly post-docs and junior scientists.
 - Professional experience: Career development, work-life-balance, managerial and leadership positions
- f. The main interest of our investigation was in initiatives that were carefully targeted interventions focusing on specific issues, localities or target groups and which had an impact in the context in which they were executed. But also wider action plans or strategies with a very ambitious scope and a broad application that provide an

- enabling environment for gender equality in R&D-organizations were considered if they were well planned and implemented and showed outstanding results.
- g. Good practice to promote gender equality in research organizations could be of large or small size. The timeframe of these initiatives can be extensive or limited to a shorter period.
 - h. Legalistic regulations like parental leave, equal opportunities etc. were not the focus of this good practice collection. The same applies for (funding) programs initiated by governmental authorities.
 - i. Initiatives can be (co-)financed by external funding. It does not have to be financed solely by the R&D-organization itself.

Timeframe of initiatives collected

Only those initiatives which were finalized or initiated after 1st of May 2004 were considered for our investigation on good practices. All initiatives which started and ended before 1st of May 2004 were not targeted in this project. But those initiatives which started any time before 1st of May 2004 and ended afterwards or are still ongoing were in principle considered in our research. The 1st of May was the date of the fifth enlargement of the European Union and seems to be a suitable time horizon for this project, because all GENDERA partners – except Israel – were then member states of the European Union. For ongoing initiatives it was relevant, that it was in principle possible to assess it as successful or not at its current state. Therefore it seemed necessary that an ongoing initiative had at least been running for half a year (depending on the objectives and the type of initiative).

Criteria for good practice

The assessment of good practice was guided by the following principles and criteria:

1. **Demonstrable success:** The assessment of good practice had to be comprehensible for all partners of the project and for everyone else concerned. Therefore the central criterion had to be demonstrable success. An initiative could only be assessed as good practice if the success of the measure could be demonstrated. Success was measured by comparing objectives and outcomes/impacts of each initiative.
2. **Sustainability:** Experiences with gender mainstreaming activities have shown that a crucial factor for success is sustainability. Certain initiatives show very promising results but lack a concept for sustainable effects. Their effects are limited to the duration of the initiative and show only onetime effects. Sustainability must have been incorporated into a good practice initiative. Therefore, initiatives which showed successful results but did not consider sustainability in their concept from the beginning were not assessed as good practice. Sustainability is an optional criterion.

3. **Systematic approach:** Initiatives which are not embedded in a wider organizational strategy on gender mainstreaming, diversity management or human resource development were considered as selective initiatives. These selective initiatives only focus on a limited part, problem or group of the organization. Mostly they are supported by certain motivated individuals on whom the effort and the success of the initiative largely depend. Therefore it was necessary that good practice initiatives were embedded in a wider organizational strategy of gender mainstreaming, diversity management or human resources development because then it has a systematic and structural background on which it can rely. Systematic approach is an optional criterion.
4. **Transferability:** One main target of GENDERA was to initiate a mutual learning process within the consortium. Therefore it seemed necessary that the good practice initiatives are transferable between different cultural, societal and political contexts. A measure which is considered to be hardly transferable has to fulfill all the other good practice criteria. Transferability is therefore an optional criterion.
5. **Innovation:** Innovation means novelty of the initiative. Innovation was considered relevant because we wanted to share and learn from those initiatives which introduce new elements, approaches or guidelines into gender equality activities. As novelty is a relational category we have decided that it should relate to each national context. Innovation is an optional criterion.

It was not necessary for an initiative to satisfy all criteria to be assessed as good practice. The criterion demonstrable success had to be evaluated positively. The four remaining criteria were optional. At least three of them had to be assessed positively. So it was necessary to meet four out of five criteria with one obligatory criterion to be assessed as good practice.

Methods of investigation/inquiry

All national partners are experts in the field of women and science issues in general and for initiatives promoting gender equality in research organizations in national and international contexts. They have a wide knowledge of diverse initiatives and of the state of the art in this field. They also have very well established connections in national and international networks and communities which they were able to utilize for their investigation into good practice. This knowledge formed the basis of the investigation/research on good practice. Considering the resources available for the relevant work package, it was not deemed practical (or viable) to collect information on all initiatives on gender equality in research organizations in all countries of the consortium. Therefore the partners' expertise of each national context was taken as the starting point for research: National partners preselected a range of promising initiatives that have partially already been assessed as good or best practice in their countries.

Especially for the larger countries, however, it must be stressed that the selection of initiatives for GENDERA represents only a small share of all the actually existing good practices. To give just one example, there are almost 400 universities in Germany. Most, if not all have had gender equality offices in place for several years. Given these quantities, it is not possible to consider all existing initiatives and develop a pre-selection sample on this basis. In addition, the good practices were often selected with a view to highlighting the different existing approaches rather than displaying them proportionally (in terms of issues covered, conducting organizations and so forth). Further restrictions result from the fact that not all requested organizations agree (or were able) to participate.

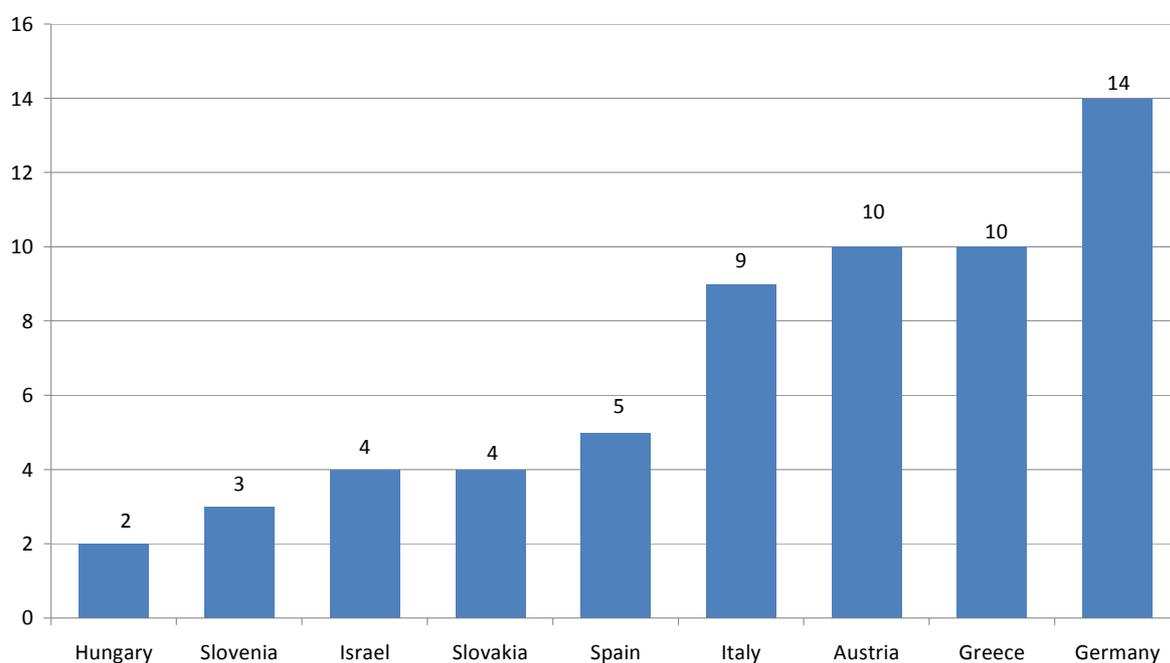
For the selected initiatives the information was collected in a questionnaire which is included in the Annex of this report. On the basis of the collected information the initiatives were assessed as good practice along the criteria defined above. The following sources of information on initiatives were considered:

- concept, project plan
- project manager(s)
- feasibility studies of planned initiatives
- ex ante evaluations
- evaluation reports
- assessments
- final reports
- preliminary reports, interim reports
- monitoring reports
- good or best practice collections
- description of initiative on the internet (make sure the information is reliable)
- reports by the European Commission
- EU-projects on best practice.

6 Overview of results of good practice collection

As already mentioned in chapter 2 of this report, the GENDERA Consortium consists of nine different partners which are all from different countries. There are 8 partners from EU countries and one from outside of the EU (Israel).

Figure 11: Number of good practice initiatives for each GENDERA country

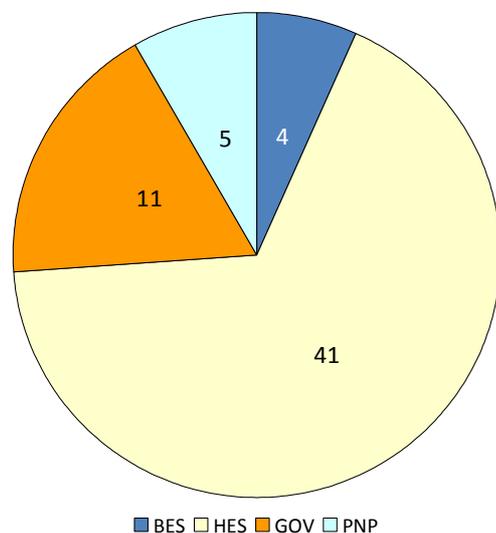


Source: GENDERA Database

Figure 12 shows that, in total, 61 good practice initiatives were selected across all GENDERA countries. In Germany 14 good practices were selected, which of course only represent a small share of the programmes that actually exist⁴. In Austria, Greece and Italy information on around 10 initiatives per country was collected. In the other GENDERA countries approximately 5 initiatives or even less were identified in each country.

⁴ For example the DFG database of gender equality measures in R&D contains nearly 200 initiatives, see <http://www.instrumentenkasten.dfg.de/>

Figure 12: Sectoral distribution of initiatives (absolute numbers)



Source: GENDERA Database

Only four countries' measures related to the business enterprise sector (BES). This low number has several reasons:

- In small countries (Slovenia) and countries with a lower innovation system (Italy, Slovakia) R&D is often carried out at a public level and by universities which are financed by the government.
- In the majority of the GENDERA countries, provisions concerning women's advancement and equal opportunities are stricter for the public sector than for the private sector. For instance in Germany, the establishment of commissioners for women's affairs is obligatory in public administration and thus also universities, with many of the identified good practices for GENDERA developed and conducted by them. The establishment of according commissioners as well as of quota etc. are voluntary in the private sector. In addition, considerable public funding is provided for universities. In 2005, an "Initiative for Excellence" was adopted for the promotion of outstanding universities with scientific excellence and international reputation and competitiveness (funding period 2006-2017). Equal opportunities issues play an important role in the funding conditions and in the implementation of initiatives of excellent universities. Therefore universities applying for such funding must present an equal opportunities concept.
- It has mostly been very difficult for the GENDERA partners to identify initiatives in the BES. If businesses have implemented measures dealing with gender equality they are often not well documented on public websites or they do not specifically address researchers or cannot be regarded as good practice examples as the initiative's success is not demonstrable. In Germany many companies are running management

programmes, sometimes with a gender focus, but the companies contacted did not consider them relevant for the GENDERA target group of female researchers.

A small number of initiatives related to the public non-profit sector (PNP) were found in Spain, Germany and Austria. In Spain three initiatives were identified which have close ties to the government and universities sector.

Box 1: "Initiative for Excellence" promoting gender equality in German universities

The "Initiative for Excellence" to identify and strengthen outstanding German universities in order to strengthen excellence in science and research started in 2006. In total, € 2.7 billion is available for funding from 2006-2017. These financial means as well as the reputation of Excellent Universities are designed to provide strong incentives for universities to apply. Applicants must develop initiatives in three pre-defined areas and comply with various cross-cutting criteria and conditions. Among the latter, equal opportunities issues play an important role and they often find their way also into the implementation of initiatives (i.e. through integration of staff quota or advancement measures). The "Initiative for Excellence" is run by the German Research Community (DFG) and the German Council of Science and Humanities ("Wissenschaftsrat").

For more information see:

http://www.dfg.de/en/research_funding/programmes/excellence_initiative/index.html

Box 2: FEMtech: Promotion of equal opportunities in the business enterprise sector in Austria

FEMtech is a program of the Austrian Federal Ministry for Transport, Innovation and Technology (BMVIT) to promote equal opportunities in research and technology. It aims to specifically support women and to change the framework conditions in industrial and extra-faculty research to enable and foster gender equality.

By introducing specific supporting measures, Austrian R&D enterprises are encouraged to improve their attractiveness for women. This should also help them to reduce the shortage of specialist personnel. These R&D companies profit from the competence and utilize the potential of qualified women in mixed-gender teams. Better equal opportunities translate into more qualified and motivated employees (including both women and men) and this means more innovative potential for the companies, which directly benefits Austria as an innovation hub.

FEMtech offers three different funding schemes:

FEMtech Career

FEMtech Career supports projects, which carry out measures towards better equal opportunities for women and men and support female researchers with realization of their professional goals. Its focus is on initiatives, which change organizational structures and sustainably ensure equal opportunities for women and men in R&D companies and extra-faculty research.

FEMtech Career Paths

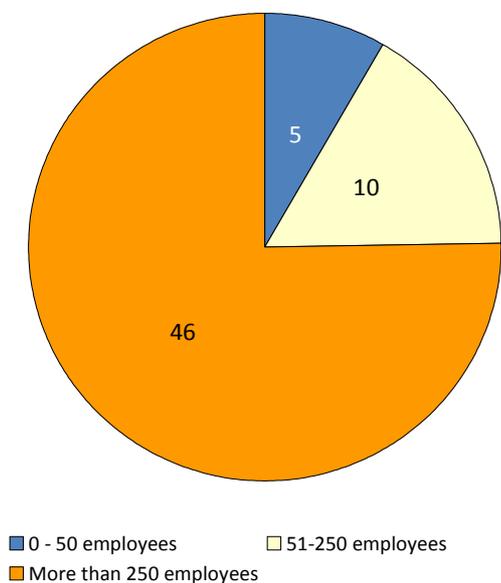
In order to ensure that the demand for female researchers and experts in R&D companies can be satisfied in the future it is necessary to convince more young women to pursue a career in the business enterprise sector in the areas of natural science and technology. For this reason, female students are supported and accompanied at the start of their careers.

FEMtech RTI-Projects

This funding scheme promotes the integration of gender dimensions into applied research projects. This should not only contribute to a more specific target group oriented research but should also raise the acceptance of developed technologies and products by women on the market. RTI-Projects are funded which address and integrate gender dimensions in their research.

For more information see: www.femtech.at

Figure 13: Size of R&D institutions (absolute numbers)



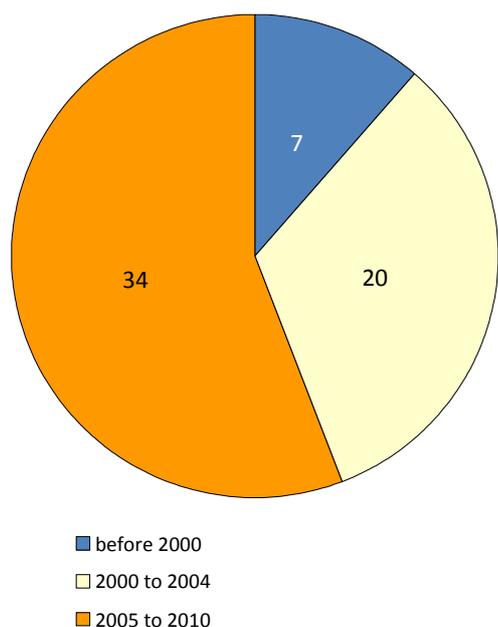
Source: GENDERA Database

The majority of good practice initiatives is implemented in institutions with more than 250 employees which is explainable as two third of the measures derive from the higher

education sector. Small and medium sized enterprises (SME) are not well represented within the GENDERA sample of good practice examples. In Slovakia, it was experienced that SMEs are not familiar with the term 'gender equality' and, thus, are not actively engaged in gender equality issues as they battle for their existence in times of economic crisis. Nevertheless, in Austria a small number of SMEs were found that have implemented good practice initiatives which are mainly funded by FEMtech, a governmental programme to promote equal opportunities in research and technology. Therefore, there is a clear need to increase the awareness of SMEs to gender equality and support them financially.

Only those initiatives which were finalized or initiated after 1st of May 2004 were considered as good practice. But those initiatives which started any time before 1st of May 2004 and ended afterwards or are still ongoing were still considered in the collection of measures.

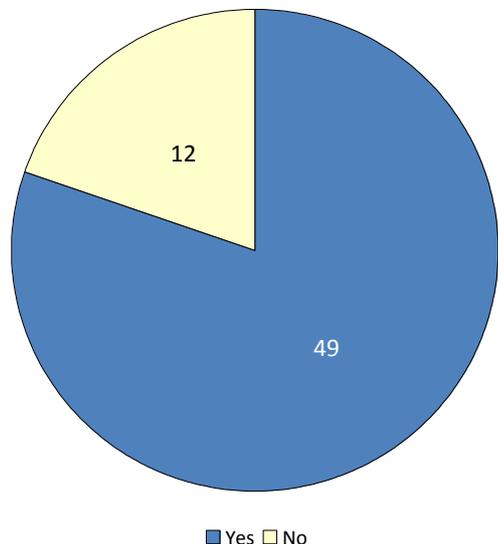
Figure 14: Starting date of initiatives (absolute numbers)



Source: GENDERA Database

The starting date of most initiatives was after 2005. Around one third of the selected initiatives started between the year 2000 and 2004. Only seven initiatives (around 11%) started even before 2000. It is evident that most of the selected initiatives were developed and implemented quite recently. But some of them are already running for a longer period which is definitely a sign of their quality.

Figure 15: Ongoing initiatives (absolute numbers)



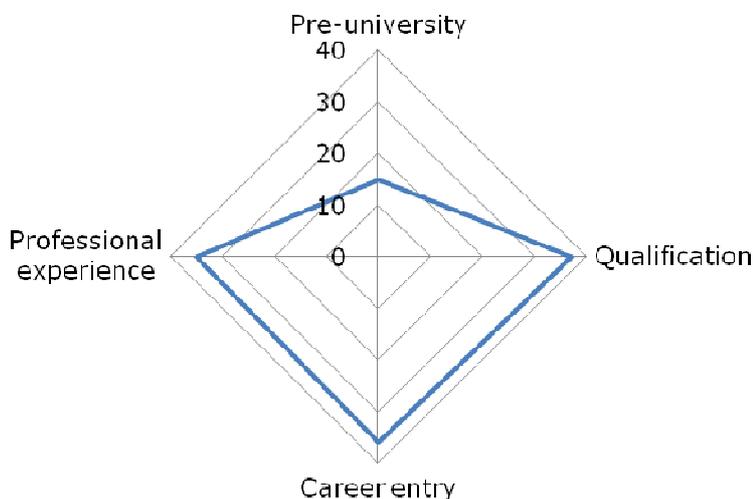
Source: GENDERA Database

Four fifths of all good practice initiatives are still ongoing. Only a small number has been terminated which indicates that most of the measures are implemented long-term or have been introduced only very recently.

Initiatives considered should be targeted at different career stages. Four career stages are distinguished:

- **pre-university:** Kindergarten, School:
Initiatives which focus on promoting the interests of pupils and children – especially girls – in science and technology and which try to overcome societal and mental barriers like gender specific stereotypes etc.
- **qualification:** higher education until doctoral degree
Initiatives which promote female students in science and technology by mentoring programs, development of new curricular, equal opportunities officers etc.
- **career entry:** post-doc, junior scientists
- **professional experience:** career development, work-life-balance, managerial and leadership positions

Figure 16: Career obstacles addressed by good practices (multiple references) (absolute numbers)



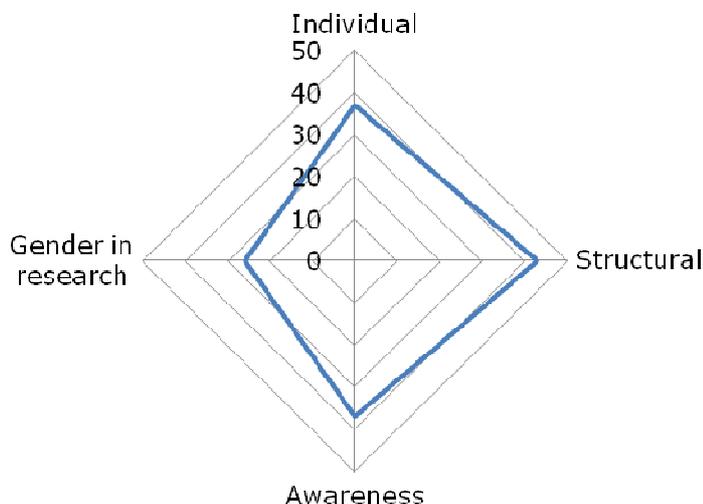
Source: GENDERA Database

Most of the good practice initiatives target more than one career stage. As a high number of measures are implemented at universities the target group is mainly composed of students and research employees. In all GENDERA countries only a small number of measures in the pre-university area were chosen as good practices. Mostly these initiatives deal with gender segregation of career choices and try to attract girls and young women to start an education in R&D in general and especially in science and technology. There are of course quite a lot of different national programmes in Germany, Austria and other GENDERA countries which address gender segregated career choices but they are not conducted and developed by R&D-organizations and therefore are not eligible as good practices. Some of the GENDERA partners reported that quite a number of initiatives exist but there is very little proof of the effects of participation and the initiative's success. Thus, they were not regarded as good practice.

The initiatives identified promote gender equality in R&D-organizations. They can operate on a structural or individual level but they can also increase awareness or enforce gender research:

- **individual** (human development measures, that target individual women without systematic approach, e.g. promotion of a female employee to gain a top position)
- **structural** (measures to steer the corporate culture towards equal opportunities, initiatives for the integration of equal opportunities into operational standard procedures (e.g. gendered quality management (QM) system, gender-equitable collective agreements, etc.)
- **awareness** (e.g. gender training or gender mainstreaming courses for better sensitisation and awareness of equal opportunities)
- **gender in research**

Figure 17: Type of good practice initiatives (multiple references) (absolute numbers)



Source: GENDERA Database

Most of the good practice initiatives address more than one level. It is noticeable that individual, structural and awareness initiatives are nearly evenly distributed. For example, in Germany, the strongest group of selected initiatives address the level of the individual. Very often, the initiatives relate to single female researchers that can apply for mentoring or child care support to enable their research career. In Spain most of the selected initiatives have a structural component (particularly with regard to gender inequality within an institution and human resources policies), especially those initiatives relating to HES and GOV.

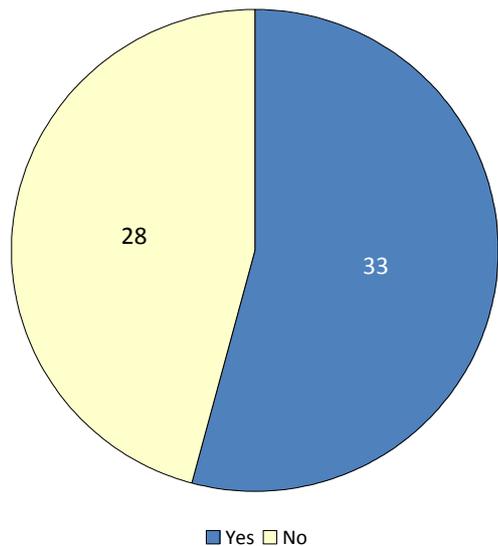
Initiatives addressing awareness objectives are the most common type. Raising awareness is very often the first step towards consciousness of gender equality and the implementation of further actions (as it entails more proactive and higher levels of effort and commitment within the institution). As a result, most initiatives share this common objective (and in some cases it is the only objective addressed by the initiative).

In some countries like Germany, Greece or Italy initiatives that address gender in research are more highly represented. But in Greece and Italy good practice measures were collected that mostly include examples of university departments of humanities, social sciences and economics which have implemented gender in research in their curricula. Germany shows a stronger focus on gender in research implemented at departments related to science and technology.

More than 50% of the good practice initiatives have been or are being monitored. Systematic monitoring and evaluation is required to ensure sustainability of initiatives and is also important for the dissemination of its results. Those that are not evaluated do not

benefit sufficiently from past experience of other measures, nor do they serve as an optimal example for future projects.

Figure 18: Monitoring and/or evaluation of good practices available (absolute numbers)



Source: GENDERA Database

7 Barriers and strategies

The identified initiatives are addressing barriers at all stages of the career progression of women in R&D. These initiatives can be roughly differentiated into two dimensions: The first dimension focuses on the career stages of women researchers in R&D. Initiatives try to intervene at different points of women's careers and to level out certain barriers that they have to confront and which hinder them in their career progression. There are three main phases of the career of a female researcher:

- The first phase is marked by developing interests, skills and qualifications and the relevant institutions are kindergarten, schools and universities.
- In the second phase women researchers are entering the labour market and are confronted with different types of barriers which keep them from entering the research profession or from progressing in their career. This phase of the career is therefore characterized by the phenomenon of the leaky pipeline and the drop out of a significant number of highly qualified women researchers.
- The last phase we have distinguished is marked by the glass ceiling which hinders many women researchers from getting into top management and into decision making or advisory bodies⁵. Therefore women are underrepresented in leadership and executive positions and are not able to express and impose their interests successfully.

The second dimension relates to the strategies for change which are deployed by these initiatives and measures. We have identified four strategies for change:

- awareness and stereotypes
- empowerment/positive action,
- work-life-balance and
- organizational change

Many initiatives we have identified employ more than one strategy for change so they are mixing different tools and strategies to address certain barriers connected to the career stages of women researchers.

This differentiation between phases of the career stages and strategies for change enables a complex description of the good practices identified in the GENDERA countries.

⁵ The glass ceiling is often considered as a barrier in the leaky pipeline

7.1. DIMENSION ONE: BARRIERS AND CAREER STAGES

7.1.1 Gender segregated career choices

These are initiatives which try to reduce gender segregation of occupational and career choices. They are tackling existing societal stereotypes and mental or social barriers preventing girls and young women from starting a research career. The main obstacle addressed by these initiatives is the lack of interest of young women in R&D in general and especially in S&T. The lack of interest and the missing promotion of girls' interest in S&T contribute to the low representation of female students and researchers in these scientific fields.

But this lack of interest is not naturally inevitable or some innate characteristic of girls and young women. The difference in technical skills and interests between girls and boys is not determined by biology but is a result of different gender specific socialization processes. Socialization and education in the core family, in the kindergarten, in school or in other public or private institutions makes a difference between girls and boys and therefore treats them differently – even though there are mixed kindergartens and schools in most of the European countries. These differences in socialization and education are produced by deep rooted cultural assumptions and stereotypes about gender specific interests, abilities, skills and behaviour. These cultural assumptions and stereotypes are an implicit knowledge which structure daily routines as well as educational materials in kindergarten and schools. Girls and boys learn to behave and act according to these cultural patterns and at the same time they are reproducing them. These patterns influence the behaviour of girls and boys and also our expectations of how girls and boys should behave. If a girl shows different interests and forms of behaviour, she is treated differently – as a girl who does not fit the norm. One very influential cultural constructed gender stereotype is that girls and boys have different abilities and interests in science and technology. Therefore they are treated differently in kindergarten, schools and at home. Girls are expected or assumed to be more interested in caring, emotional and social activities or games/play and to have no interest in science, technology or computers.

The cultural patterns and stereotypes are imprinted in the memory of women and men and in society's institutions. Therefore, the consequences of these socially and culturally constructed barriers are long lasting and can hardly be reversed at later career stages of women. If we want to fill the career pipeline with more women, which means with more talents, we need to design initiatives intervening in the career choices of girls and young women (and maybe also in those of boys and young men). We need to overcome the gender specific segregation of occupational and career choices and the causative cultural assumptions and stereotypes.

Main objectives connected to this barrier are

- to diversify the career choices of women, thereby reducing the gender segregation in occupations and science/academic fields
- to spark and to encourage the interest of girls and young women in engineering and technical studies

- to overcome gender stereotypes in education (especially in science and technology education)
- raise the number of female students – especially in science and technology as well as ICT
- changing teaching methods and textbooks for science and maths classes in schools – with regard to gender
- to get more young women into research careers – especially in S&T.

Target groups

- school teachers
- pupils (specifically girls)
- students
- parents

Career choices depend very often not only on individual decisions by girls but are strongly influenced by parents and school teachers. It is therefore very important to sensitize them for these issues, raise their level of gender awareness and integrate them into initiatives addressing gender segregated career choices.

Two good practices in Israel (“Rakia” and “Woman Power at Work”) and one in Austria (“didact”) are single sex training and qualification initiatives for girls and young women to spark and foster their interest and abilities in ICT and engineering. The advantage of single sex courses is that they create a safe and empowering environment for girls and young women in which they are able to explore and experiment more freely. Girls often feel insecure when exploring technological issues in co-education situations – especially when they have no former interest in science, technology and engineering. Girls often also have different ways of and strategies for exploring and understanding technological devices and tools. Co-education can therefore sometimes be counterproductive if different approaches of exploration and investigation of boys and girls are not considered. Single sex courses can enable girls and young women to follow their interests and discuss the reasons for their restraints or reservations more openly.

Tools

- Awareness raising events
- Workshops or hands on training
- Qualification and training for women students in S&T
- Gender-sensitive educational materials and textbooks

Benefits

- Universities benefit more directly from these initiatives than corporations because more young women might enrol as students in S&T studies. The benefits for R&D businesses are more indirect because the pool of talents for recruitment might increase and it will be easier to find highly qualified women in the future. But by participating in and

conducting such initiatives R&D companies but also universities can gain some added value: Their public image as an attractive employer for women will improve at least at a local or regional level. They will be recognized as supporting women and having a high commitment for corporate social responsibility. This often makes recruitment processes easier because the pool of candidates applying for jobs is much bigger and it is easier to attract the best talents.

- The major problem of these initiatives is that their effects are long term and therefore they are hard to measure or identify. But it is possible to measure the success of short term objectives like how many girls or young women have participated, did their perception of science and technology change, are they now more interested in these subjects, have their grades improved in science classes etc.

Box 3: Rakia - Ministry of Industry, Commerce and Employment (Israel)

The Israeli Ministry of Industry, Commerce and Employment and the Division of Technical Training is responsible for conducting the recruitment and publicizing the initiative RAKIA. The term RAKIA comes from Hebrew and means 'sky'. The initiative is internally managed and supervised by the division of special programs for special populations in the Ministry of Trade, Commerce and Employment. This division is responsible for recruitment of the potential female students, the organization and implementation. The engineering training is carried out in institutes of higher education that teach fields of mechanical practical engineering and electrical and electronic practical engineering.

The initiative RAKIA was implemented due to a shortage of qualified professionals in specific fields in practical engineering, to work for the Ministry of Defence⁶, in the course of their military service. Female candidates, especially school girls (at age 17) who are close to their graduation from high school and on the onset of their military service, were identified as a potential resource for training for these professions.

Girls often don't get involved with technology and engineering during their socialization and do not consider it as a professional or academic viable option. Nor are they encouraged in high school to pursue these fields, even when the capability is there. Many girls do not take advanced courses in maths and so exclude the possibility of studying sciences in higher education. Therefore, over 2.000 female high school students and their

parents are invited each year to meetings that are held in schools of engineering, in different parts of Israel. There the engineering professions are presented, the initiative RAKIA is described and the terms are clarified. The potential students are encouraged to try a field they had never considered and the attitude is one of empowerment. The professions are presented as beneficial to the future of the girls, in terms of employment

⁶ The Ministry of Defense in Israel is an employer of highly qualified workers, many of whom are in the most advanced technological and scientific fields. Much of the work can be done by young men and women during their compulsory military service, if they have the qualifications. Consequently, the Ministry of Defense, as end user, encourages the young recruits to complete their studies before their military service and operates various programmes to make this possible.

and later academic development. The voluntary decision to join the program proves that the young females are favourably impressed and readily convinced to start the course of study.

At the moment, the demand for the project is such that high school students make enquiries about the project even before they are invited to the introductory gatherings. The initiative is now a regular option offered every year.

The studies were conducted in special female only classes, set up specifically to cater for the young females in for this initiative. Single-sex courses are perceived as a safe and empowering environment for the young females who came with insufficient background in maths and no former interest in technology and engineering and might therefore feel insecure in a co-ed situation. In addition the issue of women's choices in life is addressed openly in group activities.

The students were given grants that covered tuition and when necessary were also given special courses in maths, for no charge, prior to the engineering training, to compensate for their choice in high school of no more than minimal programs in maths. Had there been money to cover the students' travel expenses to engineering schools, more students would have joined the plan. Since the engineering training is conducted at three schools of engineering at present and the study is full time, travel expenses are an issue for those young women who live far from school and need to travel 5 days a week.

Every year 200 females start their studies and 100-160 graduate after two years, as qualified practical engineers. A high percentage of graduates of this program continue to study for BSc in engineering and acquire an academic profession.

Box 4: Electricity in the Palms of Her Hands - Technion Israel Institute of Technology and Science (Israel)

Too often girls don't get involved with technology and engineering during their socialisation and do not consider it as a professional or academic viable option. Nor are they encouraged in high school to pursue these fields, even when the capability is there. Even girls who do very well in maths in high school, are influenced by sex typing of professions and rarely consider Electrical Engineering as a professional option. Society raises most girls to be ignorant of the full meaning and potential of studying electrical engineering and working in the field.

The Technion - Israel Institute of Technology and Science invented the initiative "Electricity in the Palms of Her Hands" to encourage females to study non-traditional professions like electrical engineering and to increase the number of females in this scientific field.

The school girls are invited to an exposure day that addresses the image of Electrical Engineering and the image of the professionals working in the field in an in-depth manner. The title of the exposure day "Electricity in the Palms of Her Hands" follows the words of a popular Hebrew song.

The pupils listen to a plenary talk on the connections between science, technology and society. Cultural evolution is described in terms of technological devices the girls are familiar with. The social conventions concerning this field of study are exposed, in order to raise awareness to the fact that women can succeed in Electrical Engineering and that they are under-represented due to social constructs.

The pupils are taken in small groups to several of the Electrical Engineering department's laboratories, where they see demonstrations and experiments presented by faculty members and graduate students. Each group is accompanied by an undergraduate student from the Electrical Engineering department to enable informal talks about student life in the department. The pupils also meet a female alumnus of the department to hear her personal story and learn about the actual work of electrical engineers.

The pupils were requested to answer questions about their perception of Electrical Engineering in anonymous questionnaires, at the beginning of the day and in the afternoon, after all the activities. The analysis reveals a change in perception of the profession and a reduction in pupils' resistance toward the idea of studying Electrical Engineering. The exposure day presents the field of Electrical Engineering as interdisciplinary and multifaceted and therefore opposes one dimensional images and stereotypes of this scientific field. The activities emphasize the social relevance of Electrical Engineering because young women tend to choose fields of study that they believe have positive impacts on society. By introducing experienced female scientists girls get a livelier picture of working conditions and career possibilities in Electrical Engineering. Very important is also the setting of the exposure day: It is held in the same week as the students arts and crafts fair. At this time there are a lot of social and cultural activities taking place on the campus which impress most of the young women. They have a lot of free time to participate in these activities and to experience this lively atmosphere. Also the visit to laboratories and meetings with students and alumni make Electrical Engineering both clearer and more personally relevant to the pupils.

The exposure days have become a regular annual event, led by the Department of Education in Technology and Science. It has found the way to influence the perception of Electrical Engineering as a profession that the female pupil might consider studying. The concentrated effort on one field of study enables in-depth dealing with the nature of the profession, its applications and hands on experience. Bringing the school girls on a special visit and working with them first as a large group and later in smaller groups, creates multiple opportunities for them to experience everything very intensively and personally. Informal contacts with students and student life adds to the fun and appeals to the young girls who are interested in their peer group at the Technion.

Box 5: TechKreativ - University of Bremen (Germany)

TechKreativ is an initiative that is designed to increase young peoples' and especially girls' interest in ICT and to deepen the understanding of modern media and technology. The initiative is conducted by the research group "Digital Media in Education (dimeb)" at the University of Bremen. TechKreativ is a workshop concept that combines designing new technologically enhanced artefacts with creative construction activities. By means of these workshops, TechKreativ seeks to reduce still existing stereotypes about women and technology and to change the picture of computing science by offering innovative ways of accessing it. The workshops are designed to enable girls (but also boys) to understand the fundamentals of ICT in creative and enjoyable ways.

The main target group of TechKreativ are both girls and boys between 9 and 15 years, with girls particularly in focus. In the workshop setting, technology is combined with differing, probably unfamiliar subjects (e.g. fine arts, dance, sports or fashion) in order to offer access for young people with diverse interests.

Evaluations have shown that there is a basic understanding of ICT functionalities after a TechKreativ workshop. The participants enjoy the TechKreativ workshop. As a result of the workshops, ICT is no longer regarded as boring, girls gain self-confidence and feel empowered.

The target group is addressed via a mailing list, press releases, advertisements, internet portals and school announcements. Until now, about eight researchers and twenty different students have conducted workshops with about 750 participants. Efforts are made to ensure that approximately 50% of participants are girls. One researcher and two students (and often somebody from the field of subjects like fashion design, dance or sports) are tutors for about 15 participants in one workshop.

Workshops take up to five days and are mostly financed by project funds but partly also by attendance fees. They take place at the university, in schools or at youth hostels (with an overnight stay). During some workshops, the young participants, for example, have the opportunity to develop and try out new ideas for future wearable devices. The participants get an insight into programming micro-controllers while at the same time discovering the technical principals behind the wearable devices. In other workshops the participants learn how to program new games etc.

The main obstacles of TechKreativ are the high costs required for tutors as well as materials. Participants are not supposed to pay much money for taking part in order to open up participation for every young person regardless of their financial background.

After a TechKreativ workshop young people know that they are able to build innovative technologically enhanced artefacts and that they can be part of the digital world as a producer instead of staying only a consumer. Participants understand the fundamentals of technology and get an insight into the design process of new artefacts. Evaluations have also shown that they have fun and feel empowered by the workshops.

Box 6: Supplementary educational material for gender-related issues - University of Ioannina (Greece)

During their socialization, girls tend not to get involved in technology or natural science. Therefore they often show no interest in, or aptitude for, these fields. To raise the participation of women in science and technology it is important to motivate girls to choose careers in these fields. It is necessary to address gender-segregated career choices and gender equality in schools and other formative environments.

The University of Ioannina, together with the Research Centre for Gender Equality (KETHI) and the General Secretariat for Equality (GSE), endeavoured to produce educational material for teachers. The intention is to provide them with the resources necessary to raise awareness of gender issues and of equality among pupils and students at an earlier stage in their formative years. It is generally meant to facilitate the efforts of teachers in helping their students to overcome stereotypes and social conditioning within the educational framework at both school and University levels. The project aimed to develop educational material in order to satisfy gender-specific educational / communicational demands in the contemporary Greek school.

The material offers the possibility to:

- (re-)introduce issues on gender (in-)equalities into the everyday educational framework by featuring women scientists who have successfully overcome the systemic stereotypes to excel in their field.
- contribute to promoting gender equality in other education-related environments such as the family, the market, the University and policy-making bodies.
- advance the positive aspects of gender equality in all visible social strata.

The educational material was developed by well-known experts on gender-related and educational issues and was tested in a pilot phase in different representative school units. The findings of the pilot phase were incorporated into the final version of the material. The educational material was officially approved by the Greek Ministry of Education and the Greek Institute of Education and was then introduced into all Greek schools. The material is available in printed and electronic form. It can be downloaded or ordered over the official website of the project.

One main obstacle during implementation was to overcome the resistance of some of the teachers. They very often have internalized the same gender specific stereotypes which are very common throughout Greek society. Therefore it was very important to motivate them to use the material in the classroom and also to deal with their gender specific stereotypes. Nevertheless, many teachers participated in the initiative and in related events such as seminars and conferences. The feedback was very positive and the educational material was promoted among and adopted by, numerous departments and schools at national level.

In the future, the following steps will be necessary:

- to update the educational material regularly, as best practices change over time
- networking and coordination with similar activities

Box 7: Campaign to recruit girls to engineering faculties - Faculty of Electrical Engineering and Informatics at Budapest University of Technology and Economics (Hungary)

The Faculty of Electrical Engineering and Informatics at the Budapest University of Technology and Economics wants to double the share of female students enrolled in engineering and informatics from currently 5% to 10%. But in Hungary young people's interest in these studies is decreasing. Especially girls are very reluctant to register for these fields of studies because of still very dominant stereotypes about women's abilities in science and technology and because of the all-boys atmosphere in these departments. The number of students is decreasing and this trend will become even more pronounced due to demographic change.

Therefore it is essential for leading universities to actively generate new pools of talents and also address groups which have not so far been the focus of attention – especially girls. So the general objective of the initiative was to raise interests of pupils in engineering and informatics and try to involve as many young women as possible in the planned activities. So the primary target group of the activities was high-school students between the age of 16 to 18 and predominantly girls. Indirectly the initiative tried to address also high-school teachers and principals and change their attitudes and perceptions about girls and technology and raise their awareness for women's potentials in this context.

The initiative was supported by and conducted under the auspices of the vice-dean for education. The Pro Progressio Foundation, a non-profit organization which co-financed the initiative, announced together with BME VIK a grant for high schools to initiate activities to promote the interest of their pupils in engineering and informatics and to attend studies at BME VIK.

13 schools were selected which received funding to organize events where university students from BME VIK introduced high-school students to the educational offers and opportunities at the Faculty and to the benefits of getting a degree in engineering and informatics (with special attention to the involvement of girls). In the next phase 21 laboratories at 10 Departments of BME VIK received student groups of 10-12 pupils and showed the research work conducted there (open laboratory scheme). A colourful, easy-language publication to popularize the Faculty was prepared in 5,000 copies which were disseminated in the schools and at the time of laboratory visits. It contained a section explaining why attending the Faculty would be beneficial for girls.

One important element of the initiative was also to involve the teachers who supported the organization of the events at schools and accompanied the children to the laboratories. The collaboration between principals, teachers and the BME VIK was very positive and so was the feedback. But the main factor of success was that students from the BME VIK informed the children about their experiences and motivations. They were able to speak in a language understandable for high school students because of belonging to a similar age as the target group. This is also a good example for a needs based initiative because it takes into account the characteristics of the target group. The combination between information

meetings and laboratory visits with hands on activities for high school students – with special focus to address girls – is an effective way to raise the interest of more young women in engineering and informatics. In terms of empowerment of young women laboratory visits are very important so that they are enabled to see and test new opportunities and interests.

In the future it would be good to involve more female university students and lecturers into the events, so that girls can see that there are already women at the Faculty. They would serve as role models. It would also be useful to involve the parents of the targeted children and explain them the benefits of selecting the engineering/informatics profession. These would certainly improve the sustainability of the initiative and maybe support the impact on the actual career choices of the target group.

In the future also large companies which are interested in increasing the number of engineering/informatics students will be involved in the initiative. An alliance (“Together for the Engineer of the Future”) between BME VIK, schools and companies will be established to spread the support for the initiative.

7.1.2 Slow career progression and dropouts

In this section initiatives are introduced which focus on the common problem of the leaky pipeline. Women are more likely to drop out of academic but also of non-academic research careers than men. So even in fields of science with a high proportion of women students and graduates the share of women decreases along the stages of the career progression. So it is not only enough to supply the pipeline with more young and highly qualified women when there are certain factors which hinder women from staying on and getting on (see Sappleton and Takruri-Rizk 2008, p. 285). Therefore it is necessary to focus on retention and promotion processes in R&D-organizations because otherwise it does not make sense to increase women’s qualifications if their human capital is not utilized properly.

The leaky pipeline is a phenomenon consisting of different barriers and leads not only to a loss of highly qualified talents but also to a lack of women in top level positions and a lack of role models. So the pipeline has different leakages where women drop out of academic or scientific careers. The pipeline is not only leaking, but it has also implemented certain barriers and obstacles which prevent a lot of women from further ascending the career ladder. Leakages and barriers are overlapping but even if women do not drop out of the pipeline, they are hindered from advancing their careers at the same speed and in the same ratio as men. The basic problem which is addressed by the leaky pipeline phenomenon is that R&D-organizations are not able to retain and promote their female researchers adequately.

Research on women employed in S&T shows that most of them leave their profession to pursue alternative career paths after the age of 27. So there are more women entering S&T occupations but they drop out early before their upward mobility or their career progression to management gets on track (see *ib.*, p. 286).

R&D-organizations need to address these problems to overcome barriers to the career of women researchers – especially in S&T. They need to implement initiatives and tools to increase the retention and promotion of highly qualified women researchers. Often it is not only one barrier which hinders women in their career progression but a whole set of different obstacles and barriers.

Barriers and obstacles that can contribute to the leaky pipeline phenomenon at different stages of the research career are:

- recruiting procedures
- retention
- lack of career possibilities and perspectives
- promotion
- conditions facilitating insecure and temporary employment
- subtle exclusion of women and informal exclusionary behaviour
- all boys work environment and atmosphere
- lack of work-life-balance (see below)
- working culture
- organizational culture (see below)
- sex/gender stereotypes

Main objectives connected to these barriers are:

- reducing loss of talents – especially in S&T
- improving career development of junior scientists
- promotion of excellent female young scientists for a better career advancement and integration into the scientific community
- better integration of junior female scientists into R&D-organizations and into the scientific community
- the retention of highly qualified personnel – especially women
- the improvement of career advancement and development
- raising the proportion of women in the pool of talents for recruitment
- raising the success rate of women researchers in recruiting procedures

Target groups

- female students (especially in S&T)
- young women scientists
- women scientists in general
- university teachers / teaching staff

Tools

- mentoring
- networking: Integration of women scientists into professional networks
- training and qualification programs
 - professional qualification
 - social skills
 - management skills
 - gender competence and gender equality
- fellowships
- funding for women with care responsibilities to continue or finish their studies
- special curricula program for women PhD-candidates or post-docs
- child care facilities (kindergarten, flexible child care services, etc.)
- consideration of care responsibilities in regulations for fellowships and grants
- fellowships or other support for returnees after maternity or parental leave
- flexible working hours and flexible work organization
- introduction of tenure track positions for women to establish clearer career perspectives (career programs)
- introduction of equal pay measures
- advisory bodies or working groups on equal opportunity issues

Benefits

- Easier recruitment of highly qualified personnel
- Sustainable retention of female talents: lower fluctuation rate of women researchers and/or students in research organizations
- Gender as a cross cutting issue fosters inter-disciplinarity by linking different institutes and faculties
- Higher motivation and work satisfaction due to better reconcilability of work and private life
- Better working conditions lead to higher quality output and efficiency
- Diversified research teams contribute to more creativity and innovation in R&D-organizations

**Box 8: plan m Mentoring in Science - Equal Opportunities Office at Bremen University
(Germany)**

Bremen University is one of the German universities participating successfully in the German "Initiative for Excellence" with its graduate schools GLOMAR – Global Change in the Maritime Realm and BIGSSS – Bremen International Graduate School of Social Sciences and its cluster of excellence Marum–The Ocean in the Earth System.

The initiative "*plan m* Mentoring in Science" is part of the University's commitment in gender equality which was boosted also by the German Research Foundation's (DFG) gender equality commitment, in particular the so-called "Gleichstellungsstandards" (equal opportunities standards).

"*plan m* Mentoring in Science" is about gender balanced support of junior scientists and aims specifically at reducing the impact of the "Leaky Pipeline". The initiative's long term aim is to increase the share of women in top positions in science. However, when the Equal Opportunities Office planned the initiative, it regarded mentoring also as a possibility to combine individual support for women scientists with impulses for structural changes within the University as an organization: Through providing higher gender awareness and better sensitisation and awareness of equal opportunities the initiative also aims at influencing the work culture at the University and third-party-funded institutions, such as collaborative research centres and clusters of excellence.

"*plan m*" comprises a range of specific mentoring programmes targeted at women scientists in different scientific areas, i.e. natural sciences and engineering, which all seek to benefit mentees regarding:

- career management in science
- individual career advice, career planning and strategy development
- individual and structural career obstacles for women
- sciences culture: rules of the game, values and norms
- integration into important networks and the relevant scientific community
- individual scientific profile
- communication and conflict management and leadership skills

These measures increase the visibility of the mentees in their scientific community, broaden their professional networks and provide key competences for a professional career management and development which are important for a quicker promotion to the next career level of the mentees. Dealing with possible measures for a better work-life-balance also helps the mentees to stay in the occupational area "science". In advance of each programme, there is a three to six months information phase. Potential mentees are targeted mainly through information events which are promoted by mailings, brochures etc. In addition, there is marketing material available for each of the programmes (brochures, posters).

Each programme consists of four modules which entail different services:

1. "Networking module", i.e.: organisation of round table discussions with professors and mentors.
2. "Seminar programme"; here, the mentees will jointly develop their needs for qualification in a workshop; the seminar programme is then organized according to each individual group's profile and needs. There are 10-12 seminars per programme.
3. "One-to-one mentoring"; here, workshops are organized which are designed to develop criteria for the choice of a mentor; after that, the preferred mentors are contacted and engaged.
4. "Peer group" module, i.e.: realization of seminars on methods and techniques of peer consulting, organization of group meetings.

Each mentee-mentor team meets at least four times, however, there will often be spontaneous consultations. Experience up to now is very good. In some cases, where the mentor is located abroad, the mentees are even invited to visit and to join the mentor's network. The mentoring relation is confidential.

The Mentoring Programme is evaluated by external experts regularly. "plan m" follows quality standards agreed on in a nationwide "Forum Mentoring", but in some areas even exceeds these. I.e., there was a follow-up evaluation although the identification of long term effects is not required by the standards. The programme's progress is monitored constantly, i.e. through workshops for taking stock, in order to identify and react to obstacles. Very important for the success of the programme was the backing of the chancellor and directors of the research institutions which reduced the resistance to its implementation. It is also important that each programme is tailored to the specific needs of the group of mentees that was chosen for the programme and to react to different work cultures in different scientific fields.

"plan m" mentoring is highly successful:

- Among 10 out of 11 participants of the first programme (2004-2006), "plan m" has supported a sustainable decision in favour of an academic career. A clearer view of the necessary career steps, the corresponding development of a strategy and a purposeful approach have triggered clear steps forward within a short period.
- Through the acquired self-effectiveness in career development and communication skills mentees are enabled to take a pro-active influence on their careers, to develop their areas of responsibility, to assume executive roles and to consolidate their own position in the working group and the scientific community.
- Due to a better perception of gender-specific impact mechanisms in academic culture, participants gain better judgement of their own options for action, for structural conditions and obstacles.
- Honed gender-political awareness will enhance the mentees self-confidence in acting as women academics in male-dominated structures.
- Active networking continues to exist.

"plan m" also affects colleagues and superiors of mentees which leads to changes in the university structures with respect to equal opportunities.

Box 9: Centre for Space, Technology and Gender - Faculty of Technology (School of Engineering) at Aristotle University (Greece)

In general, the proportion of Greek girls in education is quite satisfactory: for many years, more than 50% of higher education degrees have been granted to women and one third of Greek engineers are women. However, there is still an under-representation of women in the fields of engineering and technology due to social stereotypes on gender.

The Aristotle University of Thessaloniki is the largest university in Greece and has a Faculty of Technology where the proportion of female students and female professors is quite low. Therefore, the Faculty wanted to support equal access to education and research activities by both male and female students.

Between the academic years 2003-04 and 2007-08 the Aristotle University of Thessaloniki initiated a new undergraduate program in "Gender and Equality Studies" (<http://genderstudies.web.auth.gr/filoisotitaenglish.htm>): students of all departments were required to attend a series of four courses on gender issues of their own choice in order to obtain a certificate of attendance issued by the program along with the degree conferred by their individual department. The Gender Centre was developed out of this undergraduate program and was established in May 2008.

The Gender Centre wants to promote gender equality in engineering and technology and offers support for female students studying at the Faculty of Technology. The main ongoing activities are "Mentoring support for career entry" including advice on professional aspects for the development of female graduates and the monitoring of equal access of both male

and female students to education and research activities in the Faculty of Technology. It organizes events with different stakeholders and companies from Thessaloniki which are attended by a growing number of participants.

Major obstacles impeding the implementation of the initiative included a shortage of funding by the Faculty of Technology, which had to be compensated for through the volunteering efforts of mostly female professors. Also, the members of the Faculty of Technology were initially quite reluctant to implement the program. But now the centre is widely accepted. The initial reluctance from the university's academic staff evaporated when feedback from female students participating in the mentoring support demonstrated the importance of the centre's activities. Overall, efforts to make the impact of its activities visible for all persons involved, together with the top level support of the university's dean, proved to be very helpful in overcoming any reluctance within the faculty. Although the Gender Centre is quite new, it has rapidly become popular among students and the Community of the Faculty of Technology. One reason for its success is its demand-based design: The Gender Centre is proceeding very carefully towards the very clear needs of the community it addresses.

The Gender Centre's activities have no clear end-date but there are plans for new activities such as the establishment of a gender committee or observatory within the university.

Box 10: FEMWood1: Competence in Gender Mainstreaming - Wood K plus competence centre (Austria)

The Wood Kplus is a competence centre conducting research in the field of wood composite materials, wood chemistry in strong cooperation with the Austrian industry. One third of the scientific staff of the Wood Kplus Center are women. Considering the low proportion of women in science and technology education in Austria this is a quite high share of women researchers. This is partly the result of the FEMwood1 project which tried to make the research centre more attractive for female employees.

The research centre was confronted with problems recruiting and retaining highly qualified and skilled personnel. Hardly any women applied for vacant jobs and there was also a high fluctuation of female employees. Before the FEMwood1 initiative a favourable approach towards gender equality already existed in the research centre. An equal opportunity commissioner was hired who worked as a liaison officer for female employees. She is the first point of contact for all employees in matters regarding equal opportunities.

The project was started to demonstrate that Wood K plus is a young and innovative company; hence the management wanted to present the company as an organization aware of societal discussions like the lacking presence of women in science and technology which is conducting activities to promote gender equality.

- Increase the attractiveness of the company for new female employees.
- Furthermore the constant fluctuation of employees and the difficulties in recruitment were motives to get involved.
- The project was funded by the "FEMtech" program of the Austrian Research Promotion Agency (FFG) und conducted by the equal opportunity commissioner. The following activities were organised:
- Increasing gender competence of executives through mandatory courses on equal treatment, role stereotypes, awareness rising for gender & diversity, etc.
- Seminar on role behaviour and self marketing for employees to reflect on their behavioural patterns in professional life and to actively pinpoint and ward off discriminating behaviour from colleagues and superiors.
- Review of internal and external communication in terms of gender conformity.
- Gender relevant contributions in internal Wood Newsletter to show how gender mainstreaming can be put in practice.
- Definition of the duties and responsibilities of the gender liaison officer: her role is to help resolve conflicts at an early stage and to contribute to a positive corporate culture taking into account gender issues.

Generally speaking the project resulted in a higher awareness level for gender differences and reflection on one's own behaviour. Employees learnt to avoid gender traps and to question company structure. Thanks to the project, prejudices about "gender" issues were widely eliminated. The most important factors of success was the involvement of the executives during the development and implementation phase of the initiative. A second important factor was that the initiative was not only focussed on the needs of women but

also tried to involve and address all employees. This reduces the potential of resistance and raises commitment. The project was very well integrated into the company and embedded in internal communication structures and cultures. The Kwood competence centre managed to introduce gender awareness under different foci to the different group of employees. Whereas Employees were introduced to reflection concerning role behaviour and self marketing the executive had to Increase their gender competence in a mandatory workshop.

7.1.3 Women researchers: not at the top

The glass ceiling is another common barrier which is addressed by different initiatives. It is an invisible barrier which prevents women getting into leadership or executive positions. It is invisible because due to equal treatment legislations there are no formal rules or laws which hinder women directly in making these career moves. The glass ceiling is therefore basically constituted by informal norms, rules and expectations which are relevant in appointment procedures. The lack of women in top management is not related to individual choices by women or to a lack of qualifications or skills and expertise. Women are not able to get into leadership positions due to organizational cultures, working environments, a lack of work-life-balance, stereotypes and the predominance of masculine notions of management. The glass ceiling is a special barrier of the leaky pipeline of particular strategic importance. Therefore it is presented in this report as an independent barrier.

The lack of women in executive management, in decision making and advisory bodies has multiple effects on the R&D sector and its attractiveness for highly qualified women researchers. One very obvious consequence is the lack of role models for young women scientists at the beginning of their career. They do not have sufficient role models which give them an idea of what a woman can achieve in R&D and how this can be done. Another important effect is that due to the lack of women in decision making bodies they cannot emphasize their interests and needs with sufficient pressure. Therefore the research topics/fields, interests, perspectives and methodologies preferred by women researchers are not valued and funded adequately. They do not get into the mainstream of the research sector and are marked by a more marginal position. A third set of consequences concerns the persistence of male norms and of a working and organizational culture shaped by the needs and interests of men. The lack of women in leadership not only results in the persistence of these norms but because of a lack of gender awareness they are not perceived as being gender specific. They are rather seen as gender neutral which is a major obstacle to gender equality in R&D.

Tackling the glass ceiling will have a significant impact on the R&D sector and on the participation of women researchers. But – and this can be seen as a paradox – it is not only enough to bring more women into leadership and executive positions. If they are to act as change agents they also need to have awareness for gender equality and a gender expertise. This is nothing we can naturally expect from women in top positions because it is more likely that these women have adjusted their career strategies to male norms and

the dominant organizational and working culture. Therefore to bring more women into the top management of R&D-organizations will not automatically lead to a change in organizational cultures and to a higher level of gender awareness.

It also means burdening women who have achieved top management positions with even more responsibilities. They are not only responsible for the success and excellence of the R&D-organization but also for pushing the gender equality agenda forward. But – as a lot of studies (see OECD 2007) indicate – there is no contradiction between economic success and gender equality – the latter influences the former in positive ways.

Main objectives connected to these barriers are

- increasing the share of women in top management and in decision making and advisory bodies
- tackling organizational structures like informal ties resulting from old boys' networks
- increasing the number and visibility of female role models
- gender related stereotypes on women as executives or business leaders

Target groups

- women researchers
- management and executives of R&D-organizations

Tools

- networking
- mentoring
- qualification
- gender trainings for executives
- work-life-balance measures

The glass ceiling can be tackled in two different ways. Firstly, efforts are made to fix the leaky pipeline and to raise the share of women researchers who are in principle able to be nominated for top level executive positions. This strategy assumes that if more women advance in their careers more women will be get promoted into top level positions. But this assumption of a linear progression is not always becoming reality as it is clearly visible in politics: Although the share of women who work for political parties is increasing and women's societal status is improving, women are not adequately represented in government or parliament in most EU27 countries. There are other barriers which hinder women to get into top level positions which are not related to the share of women in the pipeline. It seems therefore necessary to design and implement measures and initiatives which directly target these barriers. For example quotas and earmarking are measures to increase the number of women in top level positions which are not contained in this good practice collection. Also gender trainings for executives or mentoring for future executives are helpful tools in this context (see for example description of FEMWood1). But of course both strategies to tackle the glass ceiling are not excluding but complementing each other.

The glass ceiling must be tackled directly by quotas or gender trainings but also indirectly by sustaining the supply of the career pipeline.

Benefits

- modernization of R&D-organizations and improvement of public image
- more female role models who are testimonials for career opportunities in this specific R&D-organization.
- As a consequence more highly qualified women researchers are attracted.

Box 11: Dorothea Schlözer Programmes - Equal Opportunities Office at Georg-August-University Göttingen (Germany)

The Dorothea Schlözer Programme was introduced by the Georg-August University in Göttingen in 2009 and combines a number of complementary affirmative actions directed at female scientists throughout all career steps and levels (hence making a contribution to capping the leaky pipeline).

The Dorothea Schlözer Programme addresses several barriers in female career stages, like the leaky pipeline, the glass ceiling, the lack of appreciation of women's achievements and of gender awareness in organizations. The programme aims to increase the representation of qualified women. Female scientists shall be qualified for top positions, the integration of women scientists into the scientific community improved, networking with role models facilitated and women's work honoured. In addition, the Dorothea Schlözer Programme seeks to change organisational cultures and improve structures for equal opportunities.

The Dorothea Schlözer Programme is made up of three complementary parts:

- 1) The Dorothea Schlözer Medal is awarded to women who have made an exceptional contribution to the equality of women or a substantial contribution to science and research at the university. It is awarded by the university senate (which was made up of 10 men and three women in 2009).
- 2) The Dorothea Schlözer Fellowships are awarded annually to excellent female researchers from all faculties who are on their way to achieving top positions in research. The fellowships are awarded based on strict guidelines issued by the Presidential Board of the university. Female scientists in all fields and at every stage of the academic career can apply for fellowships. Approximately EUR 1.5 million are available over a period of 3 years. The fellowship programme is managed by the programme director and has been very well received by the target group. 35 fellowships will be awarded in total, with 20 already awarded in the course of 2009. The number of applications far exceeds the number of places available.
- 3) The Dorothea Schlözer Career Development Programme is targeted at female researchers at different levels of their career, including those in top positions. It includes measures that improve individual competences and teach know-how to support career development.

The presidential board of Göttingen University is responsible for the overall implementation of the initiative. The commitment of the presidential board was crucial for the success of the programme. For the development and implementation of the programme it was also important that the German Research Foundation (DFG) introduced gender equality as an evaluation criterion of research funding, which is a strong incentive for universities to commit themselves. The Dorothea Schlözer Programme supplements other existing equal opportunity activities at the university.

The most prominent obstacle for the implementation is the bias associated with affirmative actions. They are often seen to contribute to stigmatization of women implying that quality of research does not matter when it comes to equality.

The initiative is implemented by the Equal Opportunities Office with three members of the Equal Opportunities Office involved in operating the programme.

The Dorothea Schlözer Programme not only promotes gender equality with a bundle of different actions aiming at different target groups, but also contributes to more diversity in research and development.

Box 12: Sustainable development of equal opportunities - Vatron (Austria)

Vatron is an Austrian company which has its core competences in the development and production of mechatronic measurement and control devices for industrial systems. It has a small R&D department with a low share of women researchers and technicians. But the share of women is even lower in the management due to glass ceiling phenomenon. The long term aim of the gender equality initiative at Vatron is therefore to raise the proportion of women in executive positions. To achieve this it will introduce career planning tools for female technicians and conduct trainings for female technicians to prepare them for future executive functions.

Therefore Vatron participated in a cross mentoring program of the Human Resources Network in Upper Austria. Over a period of six months female "high potentials" of Upper Austrian companies were offered to participate in a cross mentoring programme which provides career management and development opportunities. A special aspect in this respect was the cross company approach: In addition to nominating the mentees, the companies also had the task to provide mentors. They preferably had to be board executives – either managing, HR, financial or divisional director. Mentees and Mentors are not working in the same company.

Vatron took part in this cross mentoring project three times already. 3 female technicians of Vatron participated as mentees and 2 managers of Vatron as mentors. The mentees were selected by the managing director of Vatron. The so called "Matching Process", i.e. the bringing together of mentors and mentees was accompanied by an external consultant. The paired up mentoring participants were then responsible for the design of a specific

mentoring process. An external supervision of the mentoring process and relationship was conducted externally by the organizing HR-network.

Important for the success is the mentoring relation with an external expert. Through the external support, issues can be discussed differently and sensitive items can be openly addressed. This is much more difficult in the case of an internal mentoring programme. Mutual dependencies may create inhibitions which may impair the aims of the mentoring process.

Female technicians of Vatron who participated as mentees were prepared for future executive functions during the mentoring process. The participation in the cross mentoring programme was a decisive step for the selected female technicians on their career progress towards positions in the management of Vatron. One mentee was already able to attain an executive position.

Additionally until 2009 the proportion of female technicians has been increasing so that up to 11 women are employed as technicians or researchers at Vatron. But also the mentors benefit from participating in the cross mentoring project: they can train their competences as coaches and advance their management skills.

The management of Vatron is convinced of the sustainable impact of the cross mentoring project and intends to participate in it in the next years.

7.2. DIMENSION TWO: STRATEGIES FOR CHANGE

7.2.1 Raising awareness and overcome stereotypes

These are initiatives which are focused on raising awareness on gender equality issues in R&D-organizations. In some R&D-organizations – especially in the business enterprise sector – there is still no awareness of gender inequalities and the connected loss of talents, creativity and innovation. Gender inequalities contribute to a lower innovation and business performance or positively formulated: Raising gender equality means raising creativity and innovation.

A first step to overcome the gender inequalities in R&D-organizations is to raise awareness of these issues. In many cases this starts with the implementation of a monitoring process or project which gathers sex-disaggregated data on the participation of women and men in R&D-organizations. Identifying gender inequalities is a first initial step towards raising awareness for this issue and achieving commitment. But raising awareness for the importance of gender equality does not stop here and is not limited to an initial stage of the implementation process of gender equality. Initiatives which are raising awareness for gender equality are important at all stages of the implementation process and need to be adapted to the current level of consciousness.

Awareness initiatives address pressing problems and start a discourse which transgresses the boundaries of groups which are already committed to the implementation of gender equality and includes wider groups of people.

Main objectives connected to these barriers are

- increasing awareness for gender equality
- ensuring visibility of women researchers and lack of role models
- tackling stereotypes about the engineering profession and careers for women in this occupational field
- overcoming the boring image of science
- gaining appreciation of achievements of women researchers

Target groups

- employees of targeted R&D-organizations
- students
- media
- general public

Tools

- monitoring
- events
- workshops
- Exhibitions

Benefits

- Improvement of public image
- Better visibility of women researchers and role models

Box 13: Exhibition "Women with PhDs in Computer and Information Science in Slovenia" - Jožef Stefan Institute (Slovenia)

Jožef Stefan Institute is a well known Slovenian national research institute that covers a broad spectrum of basic and applied research from natural sciences to life sciences and engineering. In Slovenia, the number of girls studying natural sciences has been declining over the last decade, therefore we think that it is important to promote natural sciences and motivate more girls to study science and technology. The Exhibition "Women with PhDs in computer and information science in Slovenia" designed and developed by the Jožef Stefan Institute within the European projects "Central European Centre for Women and Youth in Science" (CEC-WYS) and "WS Debate" aims in this direction. It addresses still existing stereotypes on women's abilities in ICT. It wants to demonstrate that computer and information science is a research field where women can be successful and can achieve high ranking positions. It presents a positive image of female scientists in ICT that

can serve as role models for girls and young women. But it does not only present these successful women in their professional activities but also in their private life including hobbies, friends and family.

The exhibition aims at raising awareness for the possibilities of women in ICT professions and that more efforts should be put into gender equality initiatives to facilitate the full potential of women in ICT. In a more long term perspective the exhibition hopes to

motivate girls to enrol in Computer and Information Science study programs and to choose a career in this research field.

The exhibition has a wide spectrum of different target groups. Primarily it aims at school girls who are in the process of decision-making about their study program, female students who are thinking about continuing with their education to higher levels (MSc or PhD) and also young women who are thinking about taking up a scientific career. But it also targets all people who have influence on individual's decision-making about their study program and career choices: teachers, professors, parents, peers, the society in general, the media – they all have influences on the decisions of girls concerning their interests and careers.

The exhibition was shown in high schools and faculties, at student fairs, youth centres and other locations. The selection of these locations ensured that the target groups were reached because they were already there. The exhibition also received considerable media coverage. Several articles were written about the issues on women in science and the problem of the imbalance between men and women in science and research which were triggered by the exhibition.

But the exhibition also made clear that it should not be a standalone measure. To improve the response of direct target groups (young people) it is important to direct attention of young people more on the topic. This can be achieved if the exhibition is accompanied by other interactive events, for example discussions with the portrayed female scientists.

Through the exhibition it was not only possible to reach a wide group of people and to raise the awareness for the potential of women in ICT and reduce existing stereotypes. It also resulted in discussions in the media supporting the awareness for women and science issues.

http://sciencewithart.ijs.si/phd_ict.html

**Box 14: Central Information Portal for Research, Development and Innovation (CIP RDI) -
Slovak Centre of Scientific and Technical Information (Slovakia)**

The Governmental Act No. 103 of the 7th February 2007 approved the strategy for the popularisation of science and research in the society. In line with the strategy, the Ministry of Education and Science established the National Centre for Popularisation of Science and Technology in the Society. NCP VaT started its activities in June 2007 and is supposed to organise and publicise activities related to popularisation of science. One of the main activities has been the management of the central information portal for research, science and innovation (CIP VVI) that gives broad information covering science, research and innovation for diverse groups of the population. It also covers the topic of women in science and focuses on the lack of public information on the everyday work and life of female scientists and the lack of awareness of gender equality issues in all career stages. The short term objectives of the initiative in respect to women in science are:

- creation of a specific web-portal devoted to the topic of women in science
- presentation/ introduction of the problems of gender equality and equal opportunities through interviews with successful women scientists
- publication of profiles of women scientists
- publication /presentation of women-scientists in the history of science in Slovakia
- regular monitoring and publicising of any activities in the area of gender equality and women in science in Slovakia and in the EU in the E-News

Therefore a special portal on Women in Science on the CIP VVI was created, which has approximately 4400 visitors daily. It contains different sections dealing with topics on women and science or gender related issues:

- "the secret of success" exhibits interviews with (so far) 10 women-scientists on their studies, work, career, life as well as on gender equality issues
- women in history of science in Slovakia
- establishment of the E-News "Scientific kaleidoscope" which distributes information on science and women in science in Slovakia and the EU.

Through the CIP VVI portal the popularisation of science in the society is promoted in general. But there are different communication strategies applied to reach different target groups. For example Science Caffeés and Science Confectioneries are events especially designed for a younger target group. These are special events where young people can directly participate. These events are documented by video and the streams are then available online. The popularisation of science is also supported by other media activities like features on TV or radio. The success of the initiative is visible by the number of its visitors per month: over 101,000 visitors.

The factors for its success are adequate and sustainable funding which secures not only sustainability but also makes it possible to implement long term strategies. It was also important that the objectives of the initiative were formulated in strategic governmental documents (Ministry of Education) and that it was institutionalized through the creation of the National Centre for Popularization of Science and Research. One important fact was that the topic on women and science was part of the popularisation of science strategy and was therefore able to reach a wider audience. It also facilitated different communication channels which reach specific target groups.

The initiative is best and first practice in the Slovak context of the academic approach towards gender equality that has a broader impact on awareness raising both in academia among university leadership and academics and in general public.

7.2.2 Empowerment of women researchers

Initiatives which focus on the empowerment of women researchers are most common and show a wide dissemination. According to Teresa Rees positive actions are a second generation of gender equality measures – preceded by measures on equal treatment and followed by mainstreaming activities (Rees 2001; Rees 2005).

Research and development is still a male dominated profession, especially in senior positions there are hardly any women; even in those scientific fields where the proportion of female researchers is significantly higher like in arts and humanities, social science or health science and medicine. To promote the careers of women researcher initiatives were designed which should empower women to overcome the different barriers and obstacles which they have to confront in their career progression. These are measures which focus on positive actions to support women and enable them to compete with their male colleagues. They address perceived weaknesses of women researchers including weak networks, lack of career perspectives, lack of (technical) knowledge etc. which constitute gender specific differences and disadvantages. The target groups of these initiatives are women only as they try to address the special needs of women and to enhance their employability in the R&D sector. Positive action measures are solely focused on the empowerment of women to make them compatible with the operating mode of a male dominated culture and do not challenge this culture. They simply assist women to fit in. This constitutes one often mentioned problem that women are perceived as in deficit compared to men and need help and support to be successful. This might contribute to a stigmatization of women researchers and their skills and abilities. These women-only initiatives can be perceived as barriers to career progression by women as they do not want to participate and are disadvantaged twice.

Main objectives connected to these barriers are

- overcoming the disadvantages experienced by women researchers
- strengthen women's networks
- foster women's interest in S&T and enhance their technical skills

Target groups

- school girls
- women students (with or without caring responsibilities)
- women researchers (with or without caring responsibilities) at all career stages

Tools

- networking
- mentoring
- career development programs for women researchers or PhD-students
- workshops
- training and qualification
- funding and fellowships
- scientific awards for excellent women researchers
- benefits
- more qualified women apply for jobs if positive actions to promote women researchers are visible and recognized by the target group
- highly motivated and qualified women researchers
- establishment/production of female role models
- higher retention rates of female researchers.

Box 15: fForte WIT: Women in Technology - Center for Promoting Women and Gender Studies at Vienna University of Technology (Austria)

The Vienna University of Technology has a very low proportion of female students and of women in its academic staff. The leaky pipeline is a pressing problem and challenge. The "fforte WIT – Women in Technology" is a follow up initiative of the pilot project WIT1 which was conducted from 2003 to 2008 and supported 8 PhD-students in the ICT area and offered career support measures for female high school students and graduates. "Fforte WIT" was implemented in 2008 and its main objectives were to raise awareness towards women in the technology and to integrate the promotion of female junior scientist in regular work of faculties. WIT should be established as a long-term and stable supporting measure for women scientists at the Vienna University of Technology (TU).

Fforte WIT is designed as a curricular program for PhD-candidates to support their career advancement, qualifications and networks. In 2008 all faculties of the TU were asked to apply to participate in fforte WIT. Seven faculties applied and four were finally selected: Faculty for Electrical Engineering and Information Technology, Faculty for Informatics, Faculty for Mechanical Engineering and Business Science and Faculty for Technical Chemistry. In each faculty two research assistant posts were implemented where the PhD-candidates were part time employed during the curricular program. But each faculty had to finance only one research assistant post, the other one was financed by the fforte WIT project which worked as an incentive to participate in the initiative. Altogether eight female

PhD-candidates participated in the program. The PhD-candidates hardly have any obligations for regular work done by research assistants but have to invest some of their time in the dissemination of the WIT program.

A thoroughly organized curriculum for the PhD-candidates was organized:

- enabling a continuous work on the thesis
- obligatory status reports and supervision of thesis' progress
- active promotion of involvement in the international academic community and networks by participating in international conferences and publishing in international journals
- improvement of their teaching abilities and experiences.

The forte WIT activities are supported and complemented by other gender equality initiatives conducted by the Vienna University of Technology like TechNIKE which addresses school girls, TU!Mentoring projects and the consultation for young female students at the Technological University (TUwas). The eight PhD-candidates participate in these initiatives – in some as role models like in TechNIKE or offer support like in TUwas or participate as Mentees in mentoring projects.

The Vienna University of Technology benefits from the highly skilled new PhD graduates who will act as promoters of and testimonials for the promotion of women students and at the Technological University.

For the university the introduction of WIT leads to reflect and analyse gender dimensions of its organizational structures. This reflection is essential to establish the Vienna University of Technology as a forerunner in a changing university culture towards more gender equality. The initiative was awarded with the UNESCO Award on Education for Sustainable Development.

**Box 16: Minerva-FemmeNet - Max Planck Society for the Advancement of Science e.V.
(Germany)**

Max Planck Society for the Advancement of Science is an independent, non-profit research organization. Its 80 research institutes perform basic research in the interest of the general public in the natural sciences, life sciences, social sciences and the humanities.

Minerva-FemmeNet is a network of young women scientists and their female mentors at Max Planck Society. The initiative seeks to encourage young female scientists by providing role models (mentoring) and to advance their careers by providing them with a chance to benefit from the experiences of older women scientists. Its short term objective is fixing the leaky pipeline and reducing the dropout rate of women scientists. In the long run, the initiative aims at increasing the number of women in top positions in academia and industry.

Minerva-FemmeNet was established in a bottom-up process, originating in the perception of a then prevailing need by individuals. It was set up at one Max Planck Institute, then

gradually extended to other institutes and finally institutionalised. The network is now open for all women scientists at Max Planck Society and is coordinated by a full-time employee. In addition, through cooperation with other organisations and networks mentees and mentors may now participate in workshops and seminars.

Minerva-FemmeNet comprises PhD-students and female scientists as well as former female scientific employees (alumnae) of the Max Planck Society. There is no selection process and the initiative is very flexible also with regard to the duration and type of mentoring. Mentees and mentors are matched in response to their professional background and experience, which has proved important for the initiative's success.

For mentees, participation results in networks, contacts and the acquisition of career-relevant and strategic skills. Mentors benefit from participation in the network as well, as participation offers them an extended network and a chance to improve their social competences and leadership skills. Former mentees very often commit themselves as mentors, adding to the sustainability of the initiative.

In pursuing its aims, the network has created a sense of community among women scientists at Max Planck Society and has also increased awareness for the leaky pipeline and the glass ceiling phenomena among employees within the Max Planck Society. Minerva-FemmeNet is well known across the different institutes and locations of the Max Planck Society and adds to its corporate identity. Last but not least, the network has improved inter-institutional communication at Max Planck Society.

7.2.3 Reconciliation of work and private life

Initiatives which are addressing problems related to reconciling work and private life. This is a major obstacle for women in their career progression. The responsibility of labour and housework or family care is very unequally distributed between women and men in modern western societies (see chapter 2). Women are mostly responsible for household and child-care tasks. For this reason, women are more likely to work part-time or to take a career break. As a result of this gender specific division of labour women are perceived – not only in R&D-organizations – not to be constantly available for the labour market. Compared to men their careers are more fragmented and discontinuous and they have to devote more time to family responsibilities and are expected to show less initiative and to be less committed to work. Especially if women with children work part-time R&D-organizations do not invest resources into their qualification and promotion. So it does not really matter if women actually have children or not, they are perceived as (at least potentially) not as committed as their male colleagues (often with children themselves). Women always have to prove their commitment and devotion and therefore have to work harder than men (see Ruset-Archambault et al. 2008, p. 10).

Additionally, if women leave R&D-organizations for a career break, it is extremely difficult for them to return. There is hardly any support available for women in and outside of the workplace for re-entering. Therefore re-entering the labour market after a career break is

another crucial work-life-balance problem for women. Men do not face the same problems because they hardly engage in parental leave or if so their career breaks last only for a short period of time.

Work-life-balance is an important field of action because it addresses a central gender specific dimension of modern societies. There are at least two different approaches for a better work-life-balance in R&D-organizations which are overlapping and interconnected. There are certain initiatives which are focused on facilitating a better work-life-balance in organizations. These initiatives normally address mainly women and shall make the work environment more attractive for them. But these initiatives have an effect on the whole organization because also men stand to gain from the introduction of child care facilities or services or from flexible working hours etc. On the other hand there are few work-life-balance initiatives which focus on men directly. For example the introduction of paternity leave in organizations or awareness initiatives to raise the commitment of male employees to draw on existing possibilities to take more care responsibilities for their children.

Work-life-balance initiatives have the potential to address all employees rather than focusing only on women or only on employees with care responsibilities. But they also have the potential to reframe the unequal distribution of care responsibilities between both sexes and to change the perception of men and women within the organization.

A plan for better possibilities to reconcile work and private life must be part of any excellence strategy. Better reconcilability is an important precondition for excellence.

Main objectives connected to these barriers are

- improving work-life-balance
- reconciliation between caring responsibilities and professional career
- providing resources and support for returnees

Target groups

- women and men with caring responsibilities
- all employees

Work-life-balance initiatives have a very high potential for inclusiveness. This means that they are able to address and affect almost all employees. For example, men and women can benefit from flexible child care services which are provided by employers or from flexible work hours equally. The latter makes work more attractive also for men without care responsibilities. A more inclusive design of gender equality initiatives addresses a wider spectrum of employees and might therefore raise the commitment and acceptance of the initiative.

Tools

- flexible working hours and possibilities for tele-working
- employee day-care-centre
- flexible child care services for employees

- financial support for women with children
- re-entrance scholarships and programs for returnees from parental leave

For a wide range of tools to improve work–life–balance see especially the good practice initiative “charitable trust women + academic career” from the University of Cologne in Germany and also the Hungarian Academy of Science’s very ambitious initiative “Harmonizing opportunities for female researchers”.

Benefits

- Better career opportunities for young scientists, especially for women
- Higher graduation rate and lower dropout rate of female students or researchers
- More diverse research teams
- More excellent research and researchers
- Higher retention rates of female researchers

Box 17: “Science goes family” - University of Konstanz (Germany)

The University of Konstanz was one of the German Universities to receive “Excellence” status (see Box 1) already in 2007. The University’s initiative “Science goes family” is part of the University’s commitments within the “Initiative for Excellence” and can therefore rely on considerable funding from the German Research Foundation (DFG).

“Science goes family” promotes the reconcilability of pursuing a career in science and of having a family, for men and especially for women. Women in particular are still disadvantaged in careers in research because they still shoulder the main part of family work and therefore cannot comply with the extensive time requirements. Excellent qualified women often abandon a scientific career after their studies or PhD or during the postdoctoral phase, due to difficulties with reconcilability. Combining the pressure to publish, activities abroad and conferences with family life educes strong requirements that are addressed in the initiative “Science goes family” conducted by the University of Konstanz.

“Science goes family” wants to facilitate daily routines for female researchers with children by offering tailored individual support and financial aid. By these means it also aims at changing the structural framework of the university to make it more family-friendly and therefore attracting more female researchers. Moreover, the initiative raises awareness for fostering change in partnership models to a more equal allocation of work and family duties. “Science Goes Family” consists of four modules with a total of 15 independently useable offers:

Module A: Child Day Care

1. Child Care Centre “Knirps & Co.” (60 children, ½ - 3 yrs.) with high quality standards, i.e. 1-to-3 care ratio
2. „Plan B” for emergency situations: Flexible child care, emergency child care at home,

on Saturdays, during events/congresses

3. Child Care during all school holidays

Module B: Reconciliation

4. "More Time For Children" – Flexible work organization and free spaces for parents in research: Personally dedicated qualified assistant, babysitter or deputyship for laboratory (6-12 months)
5. "Agreements For Reconcilability": Round table to prepare for pregnancy, maternity/parental leave and re-entry with pregnant women/parent, supervisor and EOO-representative
6. Coaching und individual career support for a better reconcilability (dedicated women's coach)
7. Deputyship while maternity leave
8. Service for Dual Career Couples (DCC): Supporting DCC to find employment for partner.

Module C: Financial Aid

9. Grants ("Schlieben-Lange", PhD and post-doc) for young female scientists with children
10. Bridging grant for starting and finishing PhD and for starting post-doc for female scientists, extended duration for women with children
11. Bridging grant for finishing PhD for male scientists with children ("active fathers" who take over at least 50% of children's education)
12. Travelling grant for accompanying children/babysitters on congresses

Module D: Information And Skills

13. Guidelines for parents (e.g. reconciliation, application for parenting benefit)
14. Talks and workshops about parenthood and children
15. Brochure with information about reconciliation.

The initiative is very well accepted because it satisfies existing needs of female researchers. The success of the initiative can be drawn from the following facts:

- shares of women at relevant qualification stages have increased since 2007:
 - work on PhD from 41% to 45% in 2009
 - PhD degree from 32% to 36%
 - "habilitation" from 9% to 25%
 - junior professorship from 12% to 30%

- professorships from 16% to 18%.
- Hertie Foundation certification as “familiengerechte Hochschule” (“family-friendly university”) since 2006
- “TOTAL E-EQUALITY” award in 2009 (with the aim to establish/ensure sustainable equal opportunities for women and men)

The initiative is monitored on a regular basis (twice annually). This helps to observe the acceptance, demand and use of different services and enables a better planning for prospective needs and demands. The monitoring of the initiative also shows that reconciliation is not only a problem for women but also for “active fathers” who want to take on more responsibility for bringing up their children. They are confronted with similar problems as their female colleagues and can also profit substantially from initiatives like “science goes family”. It contributes therefore to more gender-equal working environments. Including men raises the acceptance and range of the initiative.

This initiative combines individual, structural and awareness-related levels: Top-down and bottom-up strategies interact to form a unique support system for better reconcilability for women in science. University culture changes and a better work-life-balance is enabled, making a scientific career more attractive to women. It is widely recognised by Germany’s main certifiers for family friendliness/gender equality and is considered a good practice.

Box 18: Harmonizing opportunities for female researchers - Hungarian Academy of Sciences (HAS) (Hungary)

The Hungarian Academy of Sciences (HAS) is the main public scientific body in Hungary. Its major task is to progress science, disseminate research outcomes, support research and technological development and represent Hungarian science at all levels. The HAS started the initiative “Harmonizing opportunities for female researchers” to improve work-life-balance for researchers. Women with child care responsibilities were disadvantaged when applying for fellowships or grants provided by HAS. Due to their child care responsibilities, women often do not apply for fellowships or grants. Either they are over the age limits or the lower research output caused by career breaks due to child care duties reduces their scientific competitiveness. This contributes to a drop-out of female scientists who leave the science profession because of this incompatibility.

To harmonize scientific careers and family responsibilities the HAS introduced an extended age limit of two years for scientists with children under ten years of age who want to apply for a grant or fellowship. The main objective of this initiative is to help both women and men desiring to have a family, to harmonize their personal life with their work and career. From the outset a lot of young female researchers with children have used this possibility when applying for HAS fellowships or grants. Even though the majority of those who have

used the extended age limit for applying for fellowship or grants have been women, men with young children are in principle also entitled to do so.

As a long term objective, the HAS wants to create a work environment where women and men who have children can work without stress and can do creative research. Therefore the initiative is embedded in a wider strategy to balance work and private life. Most of these measures will be implemented in the near future:

- Possibilities and infrastructures for part-time work and tele-working will be introduced and extended.
- More attention will be paid to time management issues of young parents.
- Career indicators will consider parenthood in the future.
- Opportunities for flexible career advancement taking family and care responsibilities into account will be established.
- Indicators which measure the scientific career advancement and output will be adapted accordingly.
- For PhD-students the workload will be reduced and organizational support, like mentoring, will be provided.
- A "restart program" will be implemented which will provide support for women (and men) after a longer career break due to parental leave.

Together these measures will establish a more family-friendly working environment at HAS institutes that pays more attention to the work-load during different life-cycle stages.

The measures so far conducted and implemented were accepted positively by both the management of the Academy and by the targeted group of researchers. Due to the support from executives the acceptance and popularity of the initiative has been good. Moreover, the introduction of this initiative made the Academy executives more aware of gender specific effects of work-life-balance issues on academic careers.

Harmonizing opportunities for female researchers conducted by the Hungarian Academy of Sciences is a very ambitious gender equality initiative focussing on work-life-balance issues. Thereby it does not only address women but also men, which makes it a more inclusive initiative. It is a good practice even though some of its parts have not been implemented yet but the ones which have already started are showing promising results. It is also an initiative which by focussing on work-life-balance issues will contribute to changes in the organizational culture of HAS.

Box 19: Kids_JOIN_tech - Salzburg Research Forschungsgesellschaft mbH (Austria)

Salzburg Research is an extra-faculty research organization which is specialized in the fields of network technologies, mobile systems, knowledge-based systems and social sciences. The number of employees at Salzburg Research has been growing quite fast in recent years. A strategic human resources development and management programme became more and more necessary for the company. One aspect of this programme was to support work-life-balance for all employees but especially for women. At present women predominantly interrupt their employment after the birth of their first child and start a family phase lasting for several years. For the work in a research institution the duration of this family phase is too long to re-enter appropriately into science.

When the nursery near Techno-Z⁷ (which is the location of Salzburg Research) was closed, there was a need to find new solutions for child care services. The project "Kids JOIN tech" was started by Salzburg Research. As a first step, the project leaders visited childcare facilities and conducted talks with company nurseries, childcare facility operators and the family department of the regional government of Salzburg to find out how a childcare facility could be launched. The project leaders also contacted large companies nearby to find further support and partners for the project. In addition talks were conducted with the operators of Techno-Z to explore suitable premises. Finally, the employees (~900) at Techno-Z were asked in a questionnaire about their expectations of a childcare facility and whether they intended to use them. The questionnaire also included questions on the main theme preferences (natural sciences, language and creativity) and the extent of care. 56 persons registered their interest. The majority wished for an all-year nursery with a crèche, opening times from 6.00 am to 7.00 pm and a focus on English. Based on this initiative a company nursery at Techno-Z was set up.

Furthermore, Salzburg Research developed a parental leave program for employees. Now all employees receive a parent brochure "Salzburg Research Parental Leave Folder". The folder contains specific documents like guidelines, timesheets and relevant paragraphs of the work agreement. It also provides general information about maternity protection, parental leave, parental part-time work regulation and returning to employment. Also the situation of returners after parental leave has been significantly improved. The company provides coaching and vocational training both during parental leave and for returners. Meanwhile a parental leave mentoring programme was also set up. Anyone going on parental leave has a contact person in the company who keeps them up to date.

The managing director of Salzburg Research is convinced that it pays off for companies to invest in mixed teams. Therefore activities to make a reasonable work-life-balance possible are necessary. Thus men and women can gather experience while working together and possible prejudices are eliminated. The company benefits from more and better research output and innovations.

⁷ Techno Z is a technology park in the City of Salzburg where over 200 high-tech companies are located.

The project "Kids join Tech" contributed to the establishment of a new child care facility in the Techno-Z which can now be used by all employees of companies located in this technology park. The project was funded by FEMtech - a program of the Federal Ministry for Transport, Innovation and Technology (BMVIT) to promote equal opportunities in research and technology.

7.2.4 Change of organizational cultures

In this chapter initiatives which focus on changing organizational cultures will be presented. Recent research on gender equality in R&D-organizations focuses on organizational cultures which prevent women from succeeding in their careers. Most of this research is focused on S&T which is still a male dominated occupation and culture but it is also relevant for other scientific fields where men still occupy most of the senior and management positions. These male-dominated organizational cultures are often described as "chilly climates" (Soe and Yakura 2008, p. 187) which indicates an unfriendly working environment for women in R&D.

The culture and climate of particular organizations forms the proximal context or working environment for women and affects their career possibilities and outcomes. Organizational culture is a term which is hard to frame and not so easily comprehensible. Maskell-Pretz and Hopkins define organizational culture in the following way:

"An organization's corporate culture can be defined as a system of shared values (e.g., what is important) and beliefs (i.e., how things work) that interact with the organization's employees, its structure and its control system to produce behavioural norms (i.e., the way we do things around here). (...) Corporate culture not only defines the roles employees assume at work, it also defines who can do what, who listens to whom, whose ideas are accepted and how much influence particular individuals wield on the job." (Maskell-Pretz and Hopkins 1997, p. 35)

Initiatives which focus on changing organizational cultures are therefore dealing with values and norms which structure the behaviour of all employees (not only that of men). These cultural arrangements refer to the implicit and underlying rules, regulations, customs and conventions of an organization (see Sappleton and Takruri-Rizk 2008, p. 287). R&D and especially S&T organizations are structured by male values and norms. These male rules and norms prescribe workplace behaviour and construct the image of an ideal worker: he is flexible, available full time and work-centred. These norms are perceived and represented as gender neutral but they are attributes which fit more to everyday lives and working arrangements of men than of women. Women are perceived as primary carers and are assigned to this role by societal, economic and normative factors. If women want to be successful in S&T organizations they have to confront contradictory demands between their professional and gender identity (see ib., p. 304f. or Godfroy-Genin 2009, p. 90). This means not only that women have to face problems with work-life-balance but also that they are confronted with stereotypes about women's abilities in S&T.

This leads to different allocations of tasks, divisions of labour and assessment of qualifications between women and men in S&T organizations. The characteristics which are necessary to succeed in S&T are masculine characteristics and are represented as the “norm”. For this reason it is quite clear that male dominated S&T organizations offer fewer opportunities for women. In the literature on gender relations in organizations these subtle cultural barriers are described as the “gender subtext of organizations” (see e.g. Acker 1990; Sappleton and Takruri-Rizk 2008; Benschop and Doorewaard 1998).

While initiatives for empowerment – in this report understood as positive actions like mentoring, training or networking strategies – focus on groups of women at different career stages, measures changing organizational cultures attack the cultural assumptions at all levels of S&T organizations and try to affect deep-seated assumptions about gender, technology and caring responsibilities. For Teresa Rees “visioning” is a crucial tool for changing complex systems or structures:

“This is seeking to identify how existing systems and structures, however inadvertently, may be androcentric in terms of their design and who benefits. Rules and practices need to be changed in order not just to provide equality of opportunity but to foster equality of outcome” (Rees 2005, p. 568f.)

It is not enough to bring more women into the pipeline by addressing problems with recruitment, retention and promotion through positive actions. Unless there are measures which make an effort to fix these underlying cultural assumptions, equal opportunities between women and men in S&T will be hardly achievable (see Soe and Yakura 2008, p. 194). These initiatives try to address the cultural dynamics and social dimension of science and technology. Therefore these initiatives do not only focus on women but have a more holistic or inclusive approach. But positive action initiatives are necessary complements to approaches which focus on cultural changes in organizations and are not displaced by these initiatives. Both types of initiatives should be understood as interconnected and linked and not mutually exclusive.

Main objectives connected to these barriers are

- creating more diverse research teams
- changing organizational structures
- changing values and norms underpinning organizational behaviour
- tackling gender bias in assessment and performance evaluation
- implementing gender perspectives in research projects and gender in research

Target groups

- all employees
- management and executives

Cultures are inherently resistant to change. It is therefore very important to include all relevant stakeholders and actors in the initiative. A higher level of inclusiveness increases the chance for change as it addresses all actors and invites them to participate and makes

specific offers for them. As a result they will not feel excluded and their resistance to change might be reduced.

Tools

- establishment of gender equality in mission statements
- gender sensitive communication
- introduction of strategies for equal pay
- introduction of gender studies or courses
- establishment of gender equality officers

Work-life-balance initiatives also have the potential to change organizational cultures if they aim at overcoming the gender specific division of labour and housework and its underpinning norms and values.

Benefits

- Changes in organizational cultures enable women researchers to develop an unambiguous professional identity which does not conflict with gender identities and work-life-balance issues. Therefore women are enabled to unleash their potential and can contribute more to the success of research projects and innovation performance.

Box 20: Equal Pay – Austrian Institute for Ecology (Austria)

The Austrian Institute for Ecology, a small private non-profit applied R&D institute in Austria, introduced an equal pay scheme in the course of the restructuring of the organization in 2002. Previous the institute was built on different domains. Every domain had its own arrangements concerning income classification. During the restructuring process of the institute these different schemes regulating income were not seen as adequate and fair anymore. This was a window of opportunity to tackle the existing Gender Pay Gap between women and men employed at the Institute. Another reason for putting this into practice is to make the Institute a more attractive employer – not only for women.

Quite a lot of women are working at the Austrian Institute for Ecology – 56% of the staff are women; among researchers, the share of women is 50%. Establishing diverse research teams is a central target of the Institute and gender awareness and equality are parts of the mission statement. It has also introduced work-life-balance measures: Regulations are implemented which allow all members of the institute to organize their work-time to a large extent self-determined. All research members are offered the infrastructure to work at home or whilst travelling. The commitment to awareness for gender equality is therefore very well developed and sustainably established.

During the implementation the different schemes for remuneration of the departments of the Institute were standardized and a transparent income structure was developed. The regulations are implemented in employment agreements and therefore have a mandatory character. The equal pay scheme contains inter alia regulations for the salary classification

for newcomers and for salary increases during career progression. It includes all employees, from the cleaning staff to executives. Salaries are now transparently arranged and income discrimination can therefore be more easily detected and eliminated.

The first activities were working groups with all head of departments about the implementation of a sustainable remuneration schemes. After these initial workshops the works council was invited to join the discussion. At this stage more or less half of the employee staff was involved in the process. The management was kept informed but did not participate in the workshops.

The remuneration scheme is designed around four salary blocs:

- A) Performing simple work with following clear orders with low independent decision. Education: None.
- B) Assistance; Administrative assistance or cooperation in project teams. Education: appropriate training or min. of one year corresponding job experience.
- C) Project; Independent scientific research with cooperation in acquisition, leadership in projects. Education: Relevant university degree or min. three years corresponding job experience.
- D) Leadership with strategic responsibility for the institute and expanded acquisition activity, human resource development and representation activities. Education: University degree with job and at least two years leadership experience or five years corresponding job experience and two years leadership.

The advancement from one salary block to the next is possible except for Bloc A, where a transfer to the scientific blocks is not envisaged.

The new scheme is settled and accepted by the management, the works council and the staff members. Continuous discussion on topics like how to define knowledge work and how to quantify it in the scheme keep the scheme up to date. Instead of an income scheme which is non-transparent and which opens up many opportunities for not easily detectable or identifiable discrimination (not only of women), there is now a new equal pay scheme in place which is transparent, comprehensible and includes all employees.

The process of implementation was originally initiated top down by the management but was then designed and conducted as a bottom up approach. This decision of the management not to participate actively in the discussions but still show support and interest in the results can be seen as very favourable to such sensitive processes.

Therefore the staff had the possibility to discuss freely and review the different job characteristics. But still they had the feeling not of not discussing something which will never have an impact. This mixture between top down and bottom up seems to be very effective.

This assessment is also supported by the fact that the participation of all employees in the development and implementation process was identified as an important factor of success.

The consequent communication of the results of workshops and discussions was important to signal that it is an open process. This also contributed to higher levels of commitment of employees to the new equal pay scheme and reduced resistance.

One more important detail is that the equal pay scheme is embedded in the existing controlling systems. It was not necessary to set up a new controlling system for the equal pay scheme as it was integrated and adapted to existing structures.

It is an initiative which addresses organizational changes as it starts discussions about differences in valuation of work and its relation to gender. It deals therefore not only with formal regulations but also with implicit norms and values which underpin decisions on promotion and remuneration. By involving all employees and the works council these issues are discussed on a broad basis.

The implementation of an Equal Pay Scheme is a big innovation in the national context of Austria where the gender pay gap and the resistance to tackle this social injustice is significantly high. Therefore the Austrian Institute for Ecology was awarded with the Austrian Award for Equal Opportunities in R&D in 2009.

Box 21: Observatory for Equality - Universitat Autònoma de Barcelona (Spain)

The Observatory for Equality is an university organisation created by the Governing Council of the Universitat Autònoma de Barcelona (UAB) as a specialist support for the design and evaluation of equality policies.

In 2003 an analysis of the situation of women and sexism at the UAB was elaborated, commissioned by the rector and the governing team. As one of the proposals of the report emphasised the need to implement an observatory for equality: an institution which will be in charge of coordinating and developing future studies and action plans regarding gender equality.

The Observatory for Equality began its activity in 2005 and in 2008 extended its field of action to those collectives that could be subjected to unfavourable conditions for reasons of disability or social or economic situations.

In February 2005 the Observatory began its activity and first steps were done to prepare the proposal for the First UAB equality action plan. In order to orientate and advise the Observatory with respect to its activities, an Advisory Council has been constituted.

The Observatory Advisory Council has been formed by the UAB teaching and support staff that are experts in gender, disability and social and economic inequality issues.

The creation of both the Observatory and the Advisory Council was approved by the Government council, which implied a great commitment to it as well as guaranteeing its sustainability over possible government team's changes.

The "First action plan for equality between men and women" was approved by the governing council for a two year period from 2006-2007.

Main objectives were stated and proposed by specific actions in the first action plan issued by the Observatory:

1. to support an institutional change through raising the awareness of sexism at university
2. to ensure equal working conditions and career advancement in order to eradicate inequality between men and women in the group of research staff
3. to adopt a gender perspective in working conditions giving room to the “private time” and considering the physical and psychosocial impact that work and its management has on people lives
4. promotion of gender perspectives in the teaching and research contents and programs.

At the moment, apart from the first action plan, the Observatory operates as a work team dedicated to: Most results are expected in the midterm (the initiative has only run effectively for 4 years now), but impacts are already visible: In the gender balanced composition of all decision-making bodies (including rectorates and vice-rectorates) and recently by the appointing of a woman as rector. But also in a gender aware climate within the institution, developing activities and events such as the International Congress on Gender Bias and Inequities in the Assessment of Academic Quality, with a great international relevance.

Very important for the success of the Observatory was that the impulse to implement the Observatory came directly from the rector. This is a strong backing of and commitment for the Observatory and makes it hard to oppose its implementation.

The Observatory for Equality created by the UAB in order to support the design and evaluation of equality policies is a sustainable initiative based on a joint strategy with a progressively wider participation of the university community. It implies a systematic approach of equality as it incorporates gender balance and gender in research measures.

Box 22: UNIGENERE - Interdisciplinary Research Centre on Women Studies (CIRSDe) of the University of Torino (Italy)

CIRSDe (Centro Interdisciplinare di Ricerche e Studi delle Donne) at the University of Turin is a Centre for Women and Gender Studies. One of its aims is to promote equal opportunities between women and men at all levels of the university and to implement gender studies and perspectives in different university courses. Unigenero was conducted by CIRSDe to create a “gender oriented” educational offer at University of Torino raise the awareness of students and professors for gender studies. In a long term perspective it should promote and reinforce a gender equality approach in University’s curricula.

The main activities have been:

- re-styling of CIRSDe web-site
- an online course with several e-learning modules and tutoring
- seminars and meetings

- creation of a gender oriented magazine
- research reports.

The initiative was a remarkable success because the participation rate was very high. An online course was implemented which is still available on the website. Many professors added the gender approach and the online course to their classes. A monitoring tool was implemented to observe the usage of the online course: between 2004 and 2008, 750 persons asked to have access to the online training. In 2009, 90 people were external users. The project also organized 2 conferences about "sexuality & gender" and "work & gender" that gave the opportunity to add new modules to the online course. So far the following modules of the online course exist (offered?):

- First level: law, development and environment, economics, sociology
- Second level: more specific programs related to literature, anthropology, discrimination and law, masculinity, art & representation, gender in society.

The biggest and most sustainable success was that the gender modules of the online course and the gender perspective in general were added to the normal educational programs of the university's classes. Gender is increasingly considered as a cross cutting issue in higher education. The online course is a very important and effective tool because it has very low entrance barriers meaning that nearly everyone can access the modules and can participate in the e-learning.

The initiative was also accompanied by the publication of the online magazine "Quaderni di Donne & Ricerca" which is published every three months. It contains reviews and reports on publications and projects on gender studies. In a final conference in 2004 with more than 100 participants, the results of the initiative were presented and discussed. On this occasion, requests to prolong the online courses and the publication of the online journal were expressed by different participants.

The target groups of the initiative are students and professors at the University of Turin. But it also addresses a wider public. The events and access to the online course are not restricted to the University personnel.

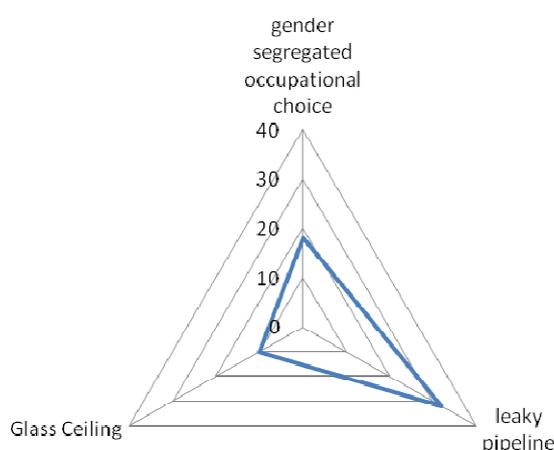
Since the beginning of the online course very consistent work has been done to improve its content and features. The content of the courses is still revised and new modules are developed. The online journal also still exists. This was possible because the funding was broadened after the initial initiative ended. Today these activities are financed by the university's budget and but also by other research promotion agencies at different governmental levels.

UNIGENERE helped the University of Turin to create a "gender oriented" educational offer, to mainstream gender among people inside and outside the academic world and to highlight gender as a cross-cutting issue in higher education institutions.

7.3. SUMMARY

The identified initiatives do not fall into one of these categories only but address barriers at different career stages at the same time. Some initiatives are therefore ambitious in their scope. The initiatives are quite unevenly distributed between the GENDERA countries so that not all barriers in the career progression of women researchers and strategies for change were found in all countries (see country descriptions in annex 1). The majority of the initiatives address barriers which are related to the leaky pipeline (see Figure 19).

Figure 19: Initiatives addressing career stages (multiple references)

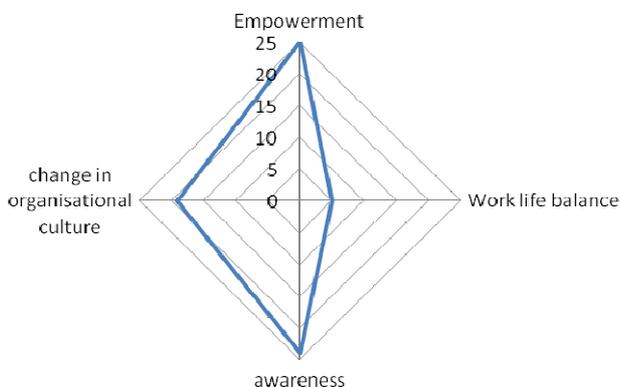


Source: GENDERA Database

Most of the selected initiatives are deploying empowerment and/or awareness raising strategies. Changing organizational cultures is also a quite well represented strategy.

Only a few initiatives directly address work-life-balance issues (see Figure 20).

Figure 20: Deployed strategies of change (multiple references)



Source: GENDERA Database



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The collected initiatives refer to barriers of R&D in general but also to more specific barriers for women in the fields of science and technology. The share of women in these scientific fields is much lower than in other fields and the barriers therefore seem to be much stronger. Also these scientific fields lay at the heart of the European strategy for growth and it is therefore important to promote and implement gender equality as innovation impulse in S&T.

8 Motives, benefits and challenges

8.1. MOTIVES FOR IMPLEMENTATION

Gender equality as a business case

The most common motives can be labeled as business cases. They relate to the lack and/or loss of talents due to existing gender inequalities in the R&D-organizations. These gender inequalities are causing problems in the recruitment and retention of highly qualified women. As the competition for qualified human resources between R&D-organizations intensifies, initiatives to promote gender equality are seen as tools to reach human resource management targets. Gender equality initiatives should increase the attractiveness of R&D-organizations for highly qualified women (but also for men) and their job satisfaction. Therefore the retention rates of women employees are expected to be higher and longer and the loss of talents should be reduced.

Additionally, initiatives which are motivated by reducing the lack of talents – especially in S&T – can be seen as a business case. Universities but also R&D companies increasingly struggle to find sufficient qualified personnel available on the labour market and therefore start to participate in initiatives to promote the interest of girls (and boys) in R&D and especially in S&T or start to launch their own initiatives. These initiatives are motivated by internal problems relating to recruitment and the available pool of talents.

A third set of business case motives relates to the efficiency and excellence of research. These motives are not yet mentioned very often but will become more important in the future. They refer to the scientific results that diverse research teams are more creative and innovative than homogenous teams. The excellence and quality of conducted research increases and therefore the reputation of the R&D-organization improves.

"In other words, companies with "diversified teams" – or higher percentages of female officers – produced better products and performed at higher rates than companies with more homogenous structures." (OECD 2007, p. 6)

External funding stimulates motivation

Motives which are induced by external circumstances are the availability of funds or other forms of financial incentives. These motives are not very common and are mostly mentioned in Germany and Austria where the DFG and FEMtech award funding for initiatives which must show a clear gender equality component for universities (DFG) and businesses (FEMtech). In most cases these motives are closely related to business case motives: an internal demand meets the possibility to apply for external funding of initiatives which address this demand. This seems to be a favourable situation for the implementation of gender equality initiatives where internal demands meet external stimuli.

Shift from social justice to business case

In recent years a shift of motives for implementing gender equality in R&D-organizations from arguments about social justice and equality to motives which focus on utilitarian and efficiency perspectives can be observed. These can be interpreted as a change in the perception of gender equality which is not an abstract or normative target imposed externally but an issue which relates to the internal needs and demands of R&D-organizations. Both sets of motives – business case and social justice – are not mutually exclusive but both imply strong arguments and justifications for the introduction of gender equality initiatives.

8.2. BENEFITS FOR R&D-ORGANIZATIONS

From visible and measurable benefits of gender equality initiatives, strong arguments and reasons for their implementation in R&D-organizations can be drawn. They are the added value of gender equality initiatives for R&D-organizations. These benefits can be differentiated into inward benefits and outward benefits. Inward benefits relate to advantages and profits from gender equality initiatives which have mostly internal effects. In contrast, the outward benefits are positive effects in the social and economic environment of R&D-organizations. Of course inward and outward benefits are often interconnected and interdependent.

Inward benefits

The inward benefits for R&D-organizations are quite diverse and heterogenic. The most important inward benefit of equal opportunity policies and measures are seen in an increase of women students and/or researchers.

Relating to human resources management the following main benefits of gender equality initiatives have been identified:

- higher employment rate of women researchers in R&D-organizations
- higher enrolment of female students in higher education
- better and easier recruitment procedures due to an extended pool of talents
- diversification of research teams
- higher levels of motivation and job satisfaction of research personnel
- improvement of working atmosphere

Business and scientific benefits

- stronger linkages between different institutes and research groups in R&D-organizations
- more interdisciplinary research projects and cooperation
- higher research outputs, e.g. more publications, PhD graduates etc.
- increasing excellence of research

Outward benefits

By implementing gender equality initiatives, R&D-organizations can attain not only inward benefits but also outward benefits. These are mainly related to positive effects for the image and reputation of R&D-organizations. The most commonly mentioned outward benefits are

- improved reputation as an attractive employer for highly qualified women researchers in the region
- improvement of the image of R&D-organizations regarding their scientific excellence
- advertisement for universities in the region where they become well known partners for schools and businesses (and vice versa)
- recognition and public attention through awards and prizes.

These outward benefits have reflexive effects on the inward benefits because by improving the reputation as an attractive employer or strengthening the image as a producer of excellent research, it will be easier to attract more highly qualified researchers and to obtain more excellent partners for collaborative projects.

8.3. PROBLEMS OF IMPLEMENTATION

During the implementation of gender equality initiatives the following problems, barriers and resistances were encountered⁸:

- financial problems due to a lack of funding or to reduced funding during implementation
- bureaucracy problems related to the financial management and reporting procedures
- lack of institutional support due to differing interests within the organization
- lack of gender awareness: gender inequality is not recognized as a problem which has to be addressed by the organization and therefore there is a resistance to recognize and tackle these barriers
- lack of commitment from executives of the organization who consider a gender equality initiative more as a tokenism
- resistance of certain groups within the organization who were affected by changes in structural and cultural frameworks due to gender equality initiatives
- lack of experience and gender expertise within the R&D-organization
- lack of monitoring of outcomes and effects of gender
- low participation of target groups

⁸ There were only few barriers and resistances mentioned which can be explained by the fact that the research results will be made public and the interview partners or contact persons did not want to answer this question because it could affect the public image of the R&D organization or could lead to internal misunderstandings. Talking about problems of implementation often makes internal procedures public which are often confidential.

9 Checklist of basic conditions for good practices on gender equality

Instead of conclusions we have tried to elaborate a checklist of basic conditions for good gender equality practices in R&D-organizations on the basis of the results stated above. Of course this checklist is not complete and the relevance of each checkpoint does differ for different initiatives but should give an impression of important issues of good practice:

1. Legal framework

- The introduction of a legal framework for gender equality or equal treatment (on a national or supranational level) facilitates and supports the implementation of concrete initiatives and measures at the organizational level. The impact of a legal framework is more directly noticeable in the public than in the private R&D sector - especially in the higher education and governmental sector. In the private sector gender equality initiatives as the example of FEMtech in Austria demonstrates can be triggered by public funding or by implementing gender equality standards into funding schemes or programs (see also below).

2. Embedding of initiatives

• **Clear distribution of competences and responsibilities**

The competences and responsibilities should be clearly distributed. Every organizational part and external partner involved should know exactly who is responsible for each task or work step.

• **Centrally embedding the initiative**

Gender equality initiatives should be connected to all other parts of the R&D-organization and should facilitate already existing competences and knowledge. It should not build up parallel structures.

• **Consensus building**

It is necessary to build a consensus within the R&D-organization on the objectives and deployed tools of gender equality initiatives from the outset. As a consequence, the initiative will be based on a wide consensus and is less likely to face strong resistance.

• **Support, commitment and integration of executives and of all responsible bodies**

The commitment of the executive management on gender equality and its support for specific initiatives is crucial for a sustainable implementation and their success. From the experiences with good practices it can be recommended to integrate the executive management into the initiative: either by assigning specific tasks to them or by designing specific measures for them. In the former, executives actively participate in the implementation of an initiative and in the latter they become a target group of the initiative.

- **External support**

For the success of gender equality initiatives it is often very important to rely on external support and expertise, especially if there is no gender knowledge available within the R&D-organizations it will be necessary to consult external gender experts who will support the design and implementation of gender equality initiatives. The introduction of gender knowledge into the R&D-organization is often more successful if supported by external experts. Of course it can also be very helpful to rely on external experts for other tasks and competences too.

- **Visibility of the initiative**

For the success and impact of gender equality initiatives it is necessary that they are highly visible – both internally and externally.

3. Funding

- **Long-term budget planning**

This increases the security, sustainability and the planning ability of initiatives.

- **External funding**

This helps to set up an initiative and allows integration into the budget of the organization step by step. In the cases of some initiatives it has proven very helpful to support the start-up phase or the whole initiative with external funding. Especially in Austria the provision of funding for gender equality initiatives in R&D corporations is very successful and it is the only GENDERA country with good practices from the business enterprise sector.

- **Avoid voluntary work**

Gender equality initiatives are very often initiated and conducted by very committed individuals (mostly women) who are very often inclined to substitute a lack of financial support by investing unpaid work and time in the initiative. This is of course has to be acknowledged and appreciated but often has negative effects on the sustainability of gender equality initiatives (especially when these women leave the R&D-organization or cannot afford to or do not want to continue investing unpaid work into it anymore). Therefore it seems necessary that gender equality initiatives are supplied with sufficient financial resources and do not depend exclusively on voluntary work.

4. Attributes of initiatives

- **Clear definition of objectives and targets**

A well planned initiative needs clearly established and communicated objectives and targets. This builds a shared foundation for all relevant actors (see also consensus building above).

- **Needs and demand-based design**

Initiatives should be connected to the everyday needs and demands of the target groups. The needs and demands are specific for different target groups. Therefore different tools have to be considered for different target groups. A good practice

initiative also needs to integrate bottom-up or participatory processes in which needs and demands can be communicated by the target groups.

- **Avoidance of stereotyping and stigmatization**

Positive action measures especially have a tendency to sustain and foster gender stereotypes or even the stigmatization of women. These possible effects must be considered very carefully during the design and implementation stages. All actors should be sensitized to these effects.

- **Inclusiveness**

Initiatives should make offers not only for women but also for men to avoid resistance and stigmatization. If measures are not reserved for women only but include also men resistance and stigmatization can be overcome more easily (see above).

- **Scope**

The scope of the initiative must fit the size of the organization, the objectives of an initiative and the given timeframe. The application of a single or multi-dimensional approach must be connected to these parameters.

- **Communication**

All participants and relevant stakeholders need to be involved in a communication plan. A clear communication of objectives, tools and target groups is necessary to raise commitment and to establish a consensus within the R&D-organization.

- **Quality of implementation**

A good practice initiative needs to be planned and implemented very thoroughly. The quality of the implementation is of course crucial. The dictum: to do something is better than doing nothing does not apply to good practices.

- **Scientific steering of initiative**

Continuous assessment, monitoring and accompanying evaluation of progress and results are necessary tools and instruments to establish high quality management. This secures relevant experiences and allows factors of success or problematic issues to be identified. These instruments make success comprehensible and support the legitimation and justification of initiatives.

- **Consideration of regional characteristics and peculiarities**

It is important to consider regional societal and economic characteristics when implementing a gender equality initiative. What works well in Germany might not in the south of Italy because the social and economic framework conditions are different.

- **Create win-win situations for all involved actors**

To reduce resistance against gender equality initiatives and to secure their success, it is important to communicate the mutual benefits all participating parties stand to gain from their implementation. Therefore it seems necessary and important that win-win situations for all involved partners are created to show that everyone will benefit from the implementation of the measures.

- **Minimize bureaucracy**

Very often good practices have to deal with bureaucracy problems. It is therefore important to define clear organizational structures and responsibilities and to establish good communication channels between all partners in the initiative. This can be helpful in minimizing bureaucratic problems.

5. Attributes of individuals

- **Gender mainstreaming expertise**

It is very important for the implementation of gender equality initiatives that gender mainstreaming expertise is available. As said above, it is helpful to consider including external gender mainstreaming experts.

- **Persistence and commitment**

The staff members of gender equality initiatives must be highly motivated and committed to its objectives. Therefore it is necessary to select the staff very carefully and to sustain motivation and commitment of each member or partner.

- **Networking and communication skills**

As mentioned above it is very important that a gender equality initiative has very strong ties to all other parts of an R&D-organization. This means that the initiative and its staff should be connected to all other relevant organizational parts of an R&D-organization. Through these formal and informal connections the commitment and support for the initiative and its objectives can be raised. For this reason staff members should have good networking and communication skills and should be very well connected and experienced within the organization.

6. Results

- **Initiatives must be monitored**

As already stated above, it is necessary (or maybe even obligatory) that the progress of gender equality initiatives is monitored and its implementation and impacts evaluated. This is an effective way to identify the impact and results of a measure.

- **Internal and external communication of impacts and results**

It is very important that the results of initiatives as well as of monitoring and evaluations are made public. They should be collected in a report which will be made publicly available. It is also very useful to communicate impacts, results and factors of success internally and externally. This contributes to internal legitimation/justification of an initiative and raises the external visibility from which the whole organization benefits (see above). But it also seems necessary to discuss and reflect on problems of implementation with all involved partners.

- **Show good practice and make benefits and added value widely visible**

A last recommendation drawn from the collected good practices is that they have to be made visible for wider groups of people. Highlight their success and benefits.

ANNEX 1

AUSTRIA

In Austria, ten examples were selected as good practice in a national context. The initiatives are summarized in the following table:

Table 3: Good practices in Austria

Initiatives	Organization	R&D Sector	Career Stage	Type of Initiative	Size of Organisation	Starting Year
FEMWood1: Wood K plus – Competence in Gender Mainstreaming	Wood K plus – Competence Centre	BES	Career entry, Professional experience	Awareness, Structural	72	2008
TEC_WOM	Profactor GmbH	BES	Career entry, Pre-University	Awareness, Structural	86	2007
Kids_JOIN_tech	Salzburg Research Forschungsgesellschaft mbH	BES	Pre-University, Professional experience	Individual, Structural	78	2007
Sustainable development of equal opportunities in vatron	vatron gmbh	BES	Professional experience	Individual	177	2006
fForte WIT – Women in Technology	Vienna University of Technology	HES	Career entry, Pre-University, Qualification	Awareness, Individual, Structural	3629	2003
Potenzial 3	Karl-Franzens-University Graz, KFU	HES	Career entry, Qualification	Awareness, Individual, Structural	3513	2001
ditact – women’s IT summer studies	Paris Lodron University (University of Salzburg)	HES	Career entry, Pre-University, Professional experience, Qualification	Individual, Structural	2389	2001
muV-Mentoring University Vienna	University of Vienna	HES	Career entry, Professional experience, Qualification	Individual, Structural	8586	2000
Gender Medicine	Innsbruck Medical University (IMU)	HES	Career entry, Professional experience, Qualification	Awareness, Structural	1772	2004
Equal Pay	Austrian Institute for Ecology	PNP	Professional experience	Structural	27	2002

1. Which barriers are addressed by the initiatives?

The barriers of initiatives identified are summarized in the following:

- Female researchers are underrepresented in technical and science studies for various reasons. It is perceived that recruitment processes do not explicitly address women and, thus, only a low number of female researchers are attracted.
- Although the number of women in technical staff has always been low, it decreases further when looking at situation higher up the career ladder. A lot of difficulties exist when female researchers return to work after maternity leave.
- Girls and women are not adequately encouraged to take up an education and profession in a technological science field. There is a lack of role models and appropriate women networks.
- Particularly at universities, junior scientists are confronted with a lack of career possibilities. No gender sensitive training of female junior scientists who want to start a career in science (university and non university) is offered. If training is available it is hardly implemented in the organizational culture of the institution.

2. What were the motives for launching the initiatives?

R&D companies want to be perceived as organizations that are aware of societal problems as the lacking presence of women in technical research fields. In order to increase the number of female researchers as well as the company's attractiveness the leadership recognized the demand to actively implement relevant initiatives. Besides the lack of female technicians the advancement in women career development had to be supported as a good mix of women and men definitely increases creativity and innovative power. In addition, an initiative was set up to support female researchers who want to return earlier to work after maternity leave.

Due to the general reorganization of Austrian universities in the year 2000, universities became autonomous in developing and implementing equality measures. Thus, the (female) vice-rector of the University of Graz launched an equality initiative as part of the human resources development in addition to 'classical' women promotion.

3. What are the benefits for R&D-organizations?

Most R&D institutions benefited from the reputation of being aware of gender issues that they gained due to the initiatives implemented. Especially universities benefit from their activities regarding gender equality as they can position themselves as forerunners in a changing university culture.

Diverse research teams involving female and male researchers lead to more creative answers for posed problems. Mixed teams may need longer for decision making, but at the same time, they are more innovative and achieve better results. Furthermore, men and women gather experiences by working together and possible prejudices are eliminated.

Mentorships are supportive for female technicians in order to be prepared for future managerial duties resp. a career in science and research. A direct benefit of the mentoring

program is the training mentors obtain. The obtained skills directly go back into their activities as university teacher and research role models. Not only the mentors, but also the mentees are future multipliers as they become mentors themselves.

4. Which factors of success did you identify during your investigation?

The most innovative initiatives resulted from activities in universities in which one clear factor of success was the engagement of the organizing person(s). Most of them have already had a political past (some even in student union activities at 'their' universities) where the topic 'increase of women participation in research' was already worked on. So for them the topic was a known and profoundly discussed area where they finally got the possibility to develop strategies for changes at a higher level.

The most important factor for business organizations was that on-going initiatives were communicated to all employees and were made comprehensible for the whole company. It is necessary to deal with the requirements of all employees, thus, positive gender approaches and measures are not misunderstood or undermined. Furthermore, executives have to be involved in the program development and implementation. External support turned out to be supportive when a new initiative is implemented. By bringing in external support, issues can be discussed differently and sensitive items can be openly addressed.

Initiatives with mono-educative elements as well as the presentation of role models (i.e. teachers, scientific experts) are perceived as highly important by the target group.

5. What were the barriers and obstacles encountered whilst conducting the initiatives?

The most interesting barrier was that most of the project leaders did not want or could not identify or remember barriers. Maybe this can be explained as long-lasting projects finally reached the status of being without barriers or they did not want to endanger future financing of already working projects. One of the project leaders said in an off-record comment that probably there were no problems except the problem that they are female and they work on the career development for female scientists.

6. What are the lessons learned? What could have been done better?

All initiatives reported the same learned lesson: communication of the project content is very important to persuade everyone that the organization stands to benefit from the initiative. It has to be integrated well in the organization and be embedded in internal communication structures and cultures, thus, it can have a sustainable impact.

When introducing a new initiative (i.e. mentoring), external support is substantial: on the one side direct support for the project leader, on the other side exchange with other groups, enterprises and individuals who have experience with similar projects. The initial phase of the initiative – the matching phase and the initial trainings – are often underestimated but are in fact the most important phase for building a good relationship.



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It is seen to be important that the activities focus on several different necessities with varied activities to improve the situation for female researchers in the long run and transform organizational culture. Evaluation is a possibility to demonstrate the success of initiatives.

GERMANY

In Germany, fourteen examples were selected as good practices in a national context.

Due to the size of the country and the number of organizations potentially conducting relevant initiatives, it is important to stress that the initiatives listed below represent only a small share of all existing good practices.

As it was not possible to consider all existing initiatives and then identify and contact the good practices among these, the German approach combined an extensive research on the internet with a subsequent contacting of approximately 35 organizations. Initiatives were then selected also depending on the organizations' commitment to participating in the assessment, as the information that was collected goes beyond the descriptions and data that are publicly available on websites etc.

In addition, the sample is meant to illustrate the variety in approach, content, target groups addressed etc. rather than allowing for conclusions about the ratio of actually existing good practices in different fields/of different actors etc.

Existing samples such as the "Instrumentenkasten" (Tool Kit) developed by the German Research Foundation (DFG) comprising almost 200 equal opportunities measures provided a most valuable overview during the research phase. However, not all examples presented in the Tool Kit meet the core of GENDERA's thematic focus and were thus not relevant for GENDERA. The good practices listed below also comprise initiatives that are not part of the "Instrumentenkasten".

As to the sectors of the organizations conducting the initiatives, again it has to be stressed that the distribution as it is displayed below is not representative. For a number of reasons it was easier to identify single, potentially relevant initiatives implemented by public organizations such as universities than those run by, for example, businesses (for example, there is often a lack of publicly available descriptions and relevant measures are often integrated into wider diversity strategies and therefore not easy to identify). Businesses are more likely to implement diversity strategies in human resource management which do not have female researchers as a specific target group.

The selected initiatives are summarized in the following table:

Table 4: Good practices in Germany

Initiatives	Organization	R&D Sector	Career Stage	Type of Initiative	Size Organization	Starting Year
plan m Mentoring in Science	Universität Bremen	HES	Career entry, Qualification	Awareness, Individual, Structural	3211	2004
TechKreativ	University of Bremen	HES	Pre-University	Awareness, Gender in research, Individual	3211	2004
Bertha-Ottenstein-Prize	Albert-Ludwigs-Universität Freiburg	HES	Qualification	Awareness; Individual; Structural	4551	1997
Dorothea Schlözer Programme	Georg-August-Universität Göttingen	HES	Qualification	Individual; Structural	10604	2009
"EGI – Exzellente Gleichstellungs-instrumente (Excellent Gender Equality Instruments)"	University of Cologne	HES	Career entry; Professional experience; Qualification	Awareness; Gender in research; Individual; Structural	6493	2006
Stiftung "Frauen + Hochschulkarriere" (engl: charitable trust "women + academic career")	University of Cologne	HES	Career entry, Professional experience, Qualification	Awareness; Gender in research, Individual, Structural	6493	2008
"Science goes family"	University of Konstanz	HES	Qualification	Awareness, Gender in research, Individual, Structural	2114	2007
Project: "Frauen gestalten die Informations-gesellschaft"	University of Paderborn	HES	Career entry, Pre-University	Gender in research, Individual	2383	1999
Qualification programme for young women scientists	University of Paderborn	HES	Career entry, Professional experience, Qualification	Awareness, Gender in research, Individual	2383	2006
Ada-Lovelace-Project	Ada-Lovelace-Projekt Central Coordination Unit	HES	Pre-University, Career entry	Awareness, Gender in research, Individual, Structural	12569	
Engineera	Technische Universität München	HES	Career entry, Professional experience, Qualification	Awareness, Individual	7212	
LaKoG	Conference of Equal Opportunities Officers at universities and academic institutions in Baden-Württemberg (LaKoG), Universität Stuttgart	HES	Career entry, Professional experience, Qualification	Awareness, Gender in research, Individual, Structural	15	

Science Career Center (SCC)	Gleichstellungsbüro der Bergischen Universität Wuppertal	HES	Career entry, Professional experience, Qualification	Awareness, Gender in research, Structural	2004	
Minerva-FemmeNet	Max Planck Society for the Advancement of Science e.V.	PNP	Career entry, Professional experience, Qualification	Awareness, Individual, Structural	13384	2001

1. Which barriers are addressed by the initiatives?

The barriers being tackled by the selected case studies all relate to the low numbers of women in certain sciences (especially SET) in general as well as the “leaky pipeline” and the “glass ceiling” phenomena concerning women’s career progress in these areas. They can be summarized as the following:

- The **low awareness** of the fact that girls and women are under-represented as students and researchers/scientists in the SET (Science, Engineering, Technology) subjects
- The **lack of or low visibility of women researchers as role models** means that young women are less able to imagine science, maths and technology careers as a career path. Traditional perceptions that careers in engineering and technology are male domains will remain until more women researchers become visible to young women.
- **Existing structures** - whether schools, organizations or networks – continue to be male-dominated. School teaching methods have so far not sufficiently shown girls that science and maths subjects are interesting or that girls have the ability to study these subjects.
- **Established networks**. In many organizations, “Old Boys’ Networks” still exist. These male-dominated networks lead to a gender bias of assessments and performance evaluation.
- **Current employment conditions** are unfavourable (insecure and temporary positions within organizations, challenges related to dual role responsibilities and for those that have already left the system to raise a family, returning to scientific careers). Related to this is the challenge of achieving a work-life-balance.
- The **loss of talent** that arises because too few girls choose science, maths and technology subjects (and thus careers) or because women frequently leave university over the course of the academic qualification process.

2. What were the motives for launching the initiatives?

The motives for launching the selected initiatives largely relate to the barriers mentioned. Many of the good practices specifically set out to show individuals that technical/science subjects and scientific careers are interesting and that careers in science offer many perspectives. Many initiatives offer girls and/or young female scientists practical experience (i.e. in the use of tools/equipment) that they did not typically get to use in childhood years,

so as to show them that they are suited to careers in technology and engineering. Others aim to show the range and opportunities of possible careers by engaging role models, i.e. established women scientists who act as mentors and guest professors in their activities. This also initiates networking possibilities for (young) women scientists. All initiatives were motivated to launch their initiative or initiatives to tackle the shortage of qualified female scientists/researchers in at least one stage of the career path: encouraging young women to choose science/technology courses at university, ensuring they complete their studies and qualifying and supporting women scientists to stay in an academic career by offering mentoring, training or support services for mothers and families. The competition for new students was another motivation mentioned for the introduction of some initiatives. Applying for external funding programs which have gender issues in their evaluation criteria (e.g. the Excellence Initiative of the German Research Community (DFG) and the German Council of Science and Humanities) also serve as a motivation for some of the selected initiatives.

3. What are the benefits for R&D-organizations?

The selected good practices are nearly all implemented in large organizations. These organizations benefit in the short term from increasing the number of female students or, in the longer term, the share of women in executive positions. At the same time they gain recognition as organizations that are changing the future of science and academia. Many of the initiatives (i.e. mentoring, training) bring together established female scientists with the next generations, thus creating networks where not only the participating individuals benefit but also the organization itself (in terms of reducing the number of students dropping out, staff recruitment/retention, development of a corporate identity, advancement of internal communication). Prizes which are awarded to excellent women scientists/researchers or research teams/faculties that introduce gender research into non-typical areas raise awareness of gender issues in general and the awarded prizes ensure that new and innovative initiatives are implemented at the university. As a result of structural initiatives, different institutes and faculties interact both within the organization as well as between the organization and external cooperation partners (schools, industry) thus creating regional networks. This co-operation allows organizations to adapt their programs and course contents according to the needs of their partners.

4. Which factors of success did you identify during your investigation?

Apart from financial support, a first and essential factor of success would be the generation of acceptance and support within the organization. This applies not only to senior management levels (deans etc.), but also to the different existing departments, faculties etc. whose support and co-operation is needed. To achieve this, communication and involvement are of vital importance. A frequent way to implement this is the establishment of steering groups or advisory boards, with strategically assigned members. Secondly, monitoring, evaluation and constant assessment are of great importance. We assume that this is due to the fact that monitoring provides for transparency, evaluation allows for the

demonstration of successes and assessment will identify weaknesses which can subsequently be overcome. Here, also a needs-based (or bottom-up) approach and a continuous needs-based development of the measures are important for their long term success. Thirdly, several initiatives stress that the display of initiatives - their promotion and communication, their visibility and renown - is of importance. Here, it is also stressed that the consolidation of single measures in an overall program or catalogue will increase visibility.

Several other factors were mentioned. For instance, for some initiatives it proved a factor of success to accompany initiatives with scientific work (taking scientific studies as a basis or as a form of consolidation). Others stressed that it is important to differentiate between short-term aims (in order to be able to show and communicate successes) and long-term aims (in order to provide a strategy and sustainable orientation of the initiative). Low participation requirements and flexibility in an initiative's implementation were mentioned as further reasons for offers being well accepted.

5. What were the barriers and obstacles encountered whilst conducting the initiatives?

For many of the initiatives, few problems were encountered when implementing the components because the responsible bodies of the organization were involved and continue to be involved in the development and advanced development process. Funding of the programs is often an issue, either in the beginning or in the search of alternative sources after receiving funding for an initial period (i.e. from the region, at the federal or European level). Therefore continuity is a barrier that has to be continuously re-examined and re-negotiated and the project or program concept will have to be tailored to meet the needs of any new funding program.

Other problems that were mentioned are:

- Bias associated with affirmative action
- Differing interests within the organization
- Scepticism of the target groups and male scientists/superiors as well as reluctance/resistance towards changing structural and cultural frameworks of certain groups
- The lack of permanent positions in the German science system (which cannot be addressed by any of the individual initiatives; action must be taken at a higher level)
- Problems resulting from structural conditions of the organization such as geographical distance of different units or the lack of continuity of staff and thus difficulties in making offers known.

6. What are the lessons learned? What could have been done better?

Many lessons learned relate to the factors of success already mentioned above (see 4). For example, one lesson learned is to constantly include the organization's management in the process and provide it with regular reports on progress and results and to establish bodies

in order to involve the organizations departments and secure internal communication and acceptance.

Other lessons learned in the field of generating support are that it might be helpful to identify allies, to create win-win-situations for anyone involved and to support involved actors by reducing their workload. Also, showing good practice and networking with other initiatives may help to strengthen the initiatives. In addition, synergies in terms of resources and capacities may be achieved through cooperation with other initiatives (e.g. joint offers with other organizations may be a way to also serve small target groups).

When it comes to the acceptance of initiatives by the target groups, lessons learned are that offers need to take into account existing needs in order to be successful (in this context, good timing is also an issue). Financial incentives prove to be efficient. Offers should be presented in a compact way; bundling them into wider-reaching programs will make it easier to communicate and understand them.

Yet another lesson learned is that a good way to implement an initiative is to start with a project sponsored by, for example, a prominent institution with an exemplary character and then try to develop the initiative and eventually establish it as a constant activity. When starting an initiative, effective initiatives of other organizations may be good models that can be adapted to one's own situation. Evaluation is of great importance and when changes in the program become necessary, these changes must be implemented.

Other lessons learned:

- There is a need for mono-educative tutorials (see for example the initiative Engineera)
- Work-life-balance is an issue at all qualification stages
- In mentoring programs, mentor and mentee should have a similar scientific background and should be encouraged to stay in touch (with each other and with the coordination office) also after the initial mentoring phase.

GREECE

In Greece, ten examples could be identified as good practice in a national context. The initiatives are summarized in the following table:

Table 5: Good practices in Greece

Initiatives	Organization	R&D Sector	Career Stage	Type of Initiative	Size of Organisation	Starting Year
Database in the framework of a "Research project for the enhancement of the position of women researchers"	National Centre for Social Research (EKKE)	GOV	Career entry, Professional experience, Qualification	Awareness, Gender in research	85	1999
Database including five catalogues regarding the role of women in academia in Greece	National Centre for Social Research (EKKE)	GOV	Career entry, Professional experience	Awareness, Gender in research	85	2006
Observatory for gender equality in education	Research Centre for Gender Equality	GOV	Pre-University, Qualification	Awareness, Gender in research, Individual, Structural	22	2006
ANTHISI	ALBA Graduate Business School	HES	Career entry, Professional experience, Qualification	Awareness, Gender in research, Individual, Structural	67	2005
Centre for Space, Technology and Gender	Aristotle University	HES	Career entry, Qualification	Gender in research, Structural	4472	2008
Undergraduate Programme for Gender Issues THE.FYL.IS.	University of Athens	HES	Professional experience, Qualification	Awareness, Gender in research, Individual, Structural	4014	2003
Development of supplementary educational material for introducing and mainstreaming gender-related issues in the educational process	University of Ioannina	HES	Pre-University	Awareness, Individual	1274	2005
Postgraduate Programme "Women and Gender: Anthropological and Historical Approaches"	University of Aegean Depart. of Social Anthropology and History	HES	Professional experience; Qualification	Awareness; Gender in research; Individual; Structural	868	2003
Undergraduate program Gender in Social sciences	University of Crete, Depart. of Sociology, School of Social Sciences	HES	Qualification	Awareness; Gender in research; Structural	1080	2003
Centre of Gender Studies, , Department of Social Policy	Centre of Gender Studies, Depart. of Social Policy, Panteion University	HES	Qualification	Awareness; Gender in research	507	2003

1. Which barriers are addressed by the initiatives?

Several barriers were addressed by the Greek initiatives:

- underrepresentation of women in top positions (especially in technology and natural sciences)
- Gender segregation of occupational choice: girls do not get involved with technology and natural science during their socialization and don't get interested in these fields. Gender equality issues are not addressed during their education and within the family.
- problems in reconciliation between professional and family life
- Disadvantages in the domestic labour market based on gender, like salary gaps between men and women, discrimination against more vulnerable female groups.

2. What were the motives for launching the initiatives?

By launching gender equality initiatives, institutions targeted at increasing awareness and engagement of key policy actors and overcoming stereotypes. The lack of gender balance in decision-making led to the integration of a gender dimension into the management of research organizations.

Even though more than 50% of higher education degrees have been granted to women for many years and one third of Greek engineers are women, the underrepresentation of women still remains in the fields of electrical and mechanical engineering. Due to the interest of some female professors, academic research in the field of gender equality was promoted in the business sector to illustrate and balance any inequality practices in this strongly technological environment.

3. What are the benefits for R&D-organizations?

The benefits are summarized as follows:

- increasing the company's reputation and benchmarking with other companies on practices targeting gender equality in the labour market
- creating ideas for new practices on promoting equal opportunities in the workplace
- making scientific knowledge accessible to everyone and raising awareness of issues such as gender in research,
- facilitation of multidisciplinary collaboration between university students of different scientific areas
- gain of valuable experience for participation in other activities
- scientific research outputs (PhD thesis) on gender issues and support activities for monitoring the number of female students and graduates and evaluation of their career development

4. Which factors of success did you identify during your investigation?

In Greece a number of factors of success were identified:

- support and commitment from top management during the implementation of the initiative
- organization of activities based on the interests of the target group and personalized consultation and training of female students
- expertise of the group of people responsible for the initiative's implementation
- availability of experts on gender-related issues
- collaboration of different organizations that are engaged with the initiative's implementation

5. What were the barriers and obstacles encountered whilst conducting the initiatives?

The main obstacle mentioned by all interviewed was bureaucracy regarding financial reporting.

6. What are the lessons learned? What could have been done better?

Involvement of more key actors during the implementation of the initiative and coordination of activities of different initiatives would be beneficial in the future. One important lesson drawn was that the involvement of experts and academics coming from various backgrounds contributed to the right implementation of the initiative and also provided high level studies and important data. However, there should have been a higher effort to involve more key organizations and experts and also to continue and extend the research on issues related to gender equality in education.

In Greece, companies were asked to contribute to the GENDERA good practice collection. The relatively low response rate of companies leads to negative conclusions about the interest of Greek companies for equal opportunities. Therefore more effort should be made to stimulate further actions to inform and encourage companies to implement activities on gender equality issues in order to attract more talents.

HUNGARY

In Hungary, only two examples could be identified as good practice in a national context. The initiatives are summarized in the following table:

Table 6: Good practices in Hungary

Initiatives	Organization	R&D sector	R&D Sector	Career Stage	Type of Initiative	Size of Organisation
Harmonizing opportunities for female researchers	Hungarian Academy of Sciences (HAS)	GOV	Professional experience	Individual, Structural		2009
Campaign to recruit girls to engineering faculties	Budapest University of Technology and Economics	HES	Pre-University		2913	2009

The main factor responsible for the low number of good practices initiatives is the underdeveloped system of gender mainstreaming in Hungary. The Ministry of Social Affairs and Labour, Women and Men Equal Social Chances Department, is the main implementing ministry which is responsible for gender equality in Hungary. The main work of this department consists of updating information about the Hungarian situation to the European Union and to inform the Hungarian population about gender attitude, position and need. Furthermore, the Hungarian R&D sector is male dominated and only a slow fluctuation is noticeable in recent years due to the increasing number of female graduates at universities.

1. Which barriers are addressed by the initiatives?

The Hungarian Academy of Sciences (HAS) started the initiative 'Harmonizing opportunities for female researchers' to improve the work-life-balance of researchers by supporting women (and men) with children.

The campaign to recruit girls to engineering faculties was introduced by the Budapest University of Technology and Economics due to a low ratio of female students at some of the departments (electrical engineering, informatics). It addresses social stereotypes about women and their interest in choosing a career in male dominated fields.

2. What were the motives for launching the initiatives?

A lot of women are interrupting or even abandoning their research career in order to meet their childcare duties. Thus, especially women with children need to be supported to prevent the loss of talent for future careers. The second Hungarian initiative tries to spark girls' interest in engineering studies.

3. What are the benefits for R&D-organizations?

The benefit for the organization (and for the whole research community in Hungary) is that talents will not be lost. The number of female students could be increased at the Budapest University of Technology and Economics.

4. Which factors of success did you identify during your investigation?

The initiative of HAS attracted much attention among researchers, as it was the first significant step to improve gender equality in science. The main factor of success of the recruiting campaign at Budapest University was that university students provided the children with information. Due to the close age gap to the participating audience the students were able to speak a language understandable for children. The university students going in to schools as well as teachers hosting them received standardized preparatory material and training.

5. What are the lessons learned? What could have been done better?

The main lesson learned about the HAS initiative was that the presence of female decision makers in top management positions is an indispensable factor to achieve an improvement of women's situation in science.

The initiative of Budapest University showed the importance of organizing pre-university events at the age when schoolchildren are choosing their profession in high-school (15-16 years). It would also be useful to reach the parents of the children targeted and explain to them the benefits of selecting an engineering resp. informatics profession. Furthermore girls benefit from role models.

ISRAEL

In Israel, four examples could be identified as good practice in a national context. The initiatives are summarized in the following table:

Table 7: Good practices in Israel

Initiatives	Organization	R&D Sector	Career Stage	Type of Initiative	Size of Organisation	Starting Year
Electricity in the Palms of Her Hands	Technion Israel Institute of Technology and Science	HES	Qualification Career entry	individual structural		2003
Rakia (translation from Hebrew : sky)	Ministry of Industry, Commerce and Employment	GOV	Qualification Career entry Professional experience	individual structural		2001
Woman Power at Work	Madatech The Israel National Museum of Science, Technology & Space	HES	Pre-University	individual structural awareness		2006
Council for the Advancement of Women in Science & Technology	Ministry of Science	GOV	Qualification Career entry Professional experience	individual structural awareness gender in research		2000

1. Which barriers are addressed by the initiatives?

The initiatives address social constructs that gear young girls away from science and technology, in particular when they are at stages of decision making as regards specializing in their studies, either in high school or in institutes of higher education. The loss of talent that results from avoidance of courses in science and engineering by girls who are high achievers in middle school and/or high school is of particular concern. Thus, the shortage of potential professionals in important fields of engineering and the persistent reluctance of females to enter those fields and contribute to the economy and industry are addressed by the initiatives. Social expectations encourage young females to succeed academically, but studying for a PhD often coincides with child bearing and financial stress of the young family. Consequently, there is a need for funding and active encouragement.

2. What were the motives for launching the initiatives?

The initiatives conducted in educational contexts reflect a commitment to an ideology and a desire to change the reality of women's lives, their perceptions and aspirations.

Especially, the initiative carried out by Madatech, the national museum of science, technology and space, not only targets at middle school girls but also certain groups that for cultural reasons are less likely to reach the museum and its activities and be exposed to scientific knowledge and activities. The initiative "Rakia" is motivated by the need to increase the immediate availability of updated, qualified practical engineers. The graduates

of the programme, after having their military service deferred for the period of studies, serve as professionals. Summarizing, most of the initiatives were launched to increase the number of students who decide to study natural sciences or a technological subject.

3. What are the benefits for R&D-organizations?

The eventual outcome of encouraging school girls to take an interest in science in different ways might be observed years later, in many spheres of life. The immediate profit to the organizers, is marginally increasing the number of students registered (Technion) or the volume of activity (MadaTech). The initiative "Rakia", on the other hand, while encouraging girls to study too, has an immediate goal that can benefit the organization. The qualified practical engineers serve in the military thus saving the military money on hiring civilians and ensuring availability of updated practical engineers.

4. Which factors of success did you identify during your investigation?

Success ranges from changes of perception, pleasure in science, acquaintance with science and scientific work, to choice of science as field of study and occupation. The most immediate result is seen in "Rakia", where girls are not only encouraged to study science, but are also granted a girl friendly study environment, with free tuition, to make this possible.

For the good practice examples identified the following factors of success could be summarized:

- Provision of funding makes the studies more attractive
- Presentation of new career perspectives to females in a non-traditional profession (i.e. electrical engineering)
- Single sex courses that are a safe and empowering environment for the young females
- Collaboration of academia, government and the business sector demonstrates a holistic range of possible career options including studies, research and work in high tech industries
- Public visibility is granted by the engagement of high profile academics, researchers and officials acting as role models in order to promote women in science and technology

5. What were the barriers and obstacles encountered whilst conducting the initiatives?

The main barrier or obstacle that was experienced is actually in those educational projects that were not described as "good practices" because they are neither reported on systematically nor evaluated. There is no guarantee that they are indeed good practices though they usually arouse enthusiasm and are led by a committed individual. The provision of funds to carry out research and evaluation on gender equality initiatives is refused by the Ministry of Education as expenditures were considered better spent on the measure itself. Thus, no systematic follow up of initiatives guarantees that lessons are

learnt, that the best structure is employed in later adoptions of the format. Moreover, sustainability is less likely in these cases; these projects remain on the level of the individual initiator and usually do not become an integral part of the culture of the organization. Formal documentation and evaluation could have helped ascertain the reliability and efficiency of these initiatives and that in turn would have increased the chances of dissemination and continuation of the programmes, with constant improvements.

6. What are the lessons learned? What could have been done better?

Unlike the business sector that insists on proof of adequate and worthwhile outcomes and is traditionally goal oriented, the ministry of education, that supports most educational initiatives to ensure equal opportunities, even when they are initiated by others, is less concerned with immediate results. This has its advantages as it enables a long term view, yet also has the disadvantage of refraining from insisting on learning lessons from the projects experimented with. More systematic research is required to ensure sustainability and dissemination of initiatives.

Those good practices that were identified were researched on an academic level as they enjoyed the involvement of individuals who had an interest beyond the specific initiative (i.e. master thesis, publication in academic journals).

ITALY

In Italy, nine examples could be identified as good practice in a national context. The initiatives are summarized in the following table:

Table 8: Good practices in Italy

Initiatives	Organization	R&D Sector	Career Stage	Type of Initiative	Size of Organisation	Starting Year
Building and sharing gender background	CNR in Bari	GOV	Pre-University	Awareness	341	2008
Equal Opportunity Committee	Università degli Studi di Milano-Bicocca	HES	Career entry, Professional experience, Qualification	Gender in research, Structural	1671	2004
Overcoming discomfort and discrimination in one's place of work	Politecnico of Bari	HES	Career entry, Professional experience, Qualification	Awareness, Individual, Structural	342	2009
PROGETTO FORMATIVO PARI OPPORTUNITA', PRASSI E CULTURE ORGANIZZATIVE - Educational project for equal opportunities, procedures and organizational culture and yearly GRANTS	University of Catania	HES	Career entry, Professional experience, Qualification	Awareness, Gender in research, Individual, Structural	1614	2006
Progetto Strega (Witch Project)	University of Salento Donne e scienza rega	HES	Pre-University, Professional experience, Qualification	Awareness, Structural	538	2008
Section on Policies for the Empowerment of Women (Sped)	Centro Interuniversitario di Ricerca per lo Sviluppo sostenibile (CIRPS) Interuniversity Centre for Sustainable development	HES	Professional experience, Qualification	Awareness, Gender in research	5	2005
CSGE –Center on Gender Studies and Education	Alma Mater Studiorum Università di Bologna CSGE –Dipartimento di Scienze dell'Educazione – Department of Education)	HES	Qualification	Awareness, Gender in research, Structural	6173	2009
UNIGENERE	University of Turin	HES	Qualification	Awareness, Gender in research, Structural		2003
Building gender Awareness in health care sector, informal agreement among public entities	Health Local Unit of Ferrara	HES	Professional experience	Awareness, Gender in research, Individual, Structural	3150	2009

1. Which barriers are addressed by the initiatives?

In Italy, women are underrepresented in scientific and technological faculties at all levels of the professional career, especially in math and engineering faculties. A low number of female researchers, especially as project managers, is witnessed in R&D-organizations. In addition, the initiatives address cultural stereotypes and gender prejudices in everyday life that cause discrimination against women in education and labour market.

2. What were the motives for launching the initiatives?

The main reasons which led to an implementation of the initiatives identified are:

- mainstreaming gender in different faculties and informing about the cross cutting and multidisciplinary aspect of gender issues,
- implementing positive actions which aim at structural changes in culture and academia,
- increasing the presence of women in science and engineering and in research,
- giving more attention to the private life of female workers and the reconciliation of private life and work,
- Supporting female researchers to highlight their research ideas in order to enable them to participate more actively in research activities.

3. What are the benefits for R&D-organizations?

The main benefit for all R&D sectors is the visibility gained through the initiatives (new contacts, new ideas for future projects...).

Universities also mentioned the importance of the activities' results (publication of materials, websites and new tools), a better working relationship between male and female staff and a general new interest from administration and academia towards gender debate.

Gender initiatives are contributing to a higher percentage of human resources in scientific career and higher positions, increasing applications to calls for proposal and participation in research projects which can be attributed to a better trained staff.

Thus, the number of female researchers in higher positions and other type of research positions has increased.

4. Which factors of success did you identify during your investigation?

Initiatives are particularly successful if the approach is novel to the organizational context in which it is going to be implemented but also when activities respond efficiently to the needs of women and they are based on a strong knowledge of local social, economic and political developments.

An high gender specialists participation is required during the activities, especially if interests and needs of the target group have to be met to achieve a good level of response from them.

Effective and good channel of communication have an essential role especially when the website is rich of information, with very clear content they can reach a high number of subjects.

Good cooperation with other offices and entities when they are involved in the initiatives.

5. What were the barriers and obstacles encountered whilst conducting the initiatives?

The most common obstacle identified is the acceptance of gender-based initiatives within the implementing institution. Project managers also mentioned the low response from participants and target group at the beginning of the initiative and the availability of financial resources.

The lack of knowledge among professors and students seems to be an important barrier to the gender based initiatives implementation. These are not very well accepted above all from the staff of the university in some sectors (scientific careers) that are mostly composed by men, also from the administrative unit employees.

Often the lack or cut of budget and logistic problems with university staff, regarding the availability of resources to implement the initiatives, have been considered as important obstacles to fully reach the initiatives' objectives.

6. What are the lessons learned? What could have been done better?

It is very important to have a good relationship with other staff involved in the initiative and have the support of colleagues to fulfil the objectives. More attention has to be given to students as it is favourable if initiatives are designed to actual needs of the target group. In order to involve and make students and scientists aware of gender issues and to raise their interests it is important that the initiative is novel and original. Networking and communication tools are likely to improve the cooperation of scientists related to different research disciplines.

The success of this kind of initiatives strongly depends on staff motivation and their personal commitment to gender equality. It is also important to receive awards from colleagues working in the same organization but not directly involved in the initiative. Constant exchange with similar initiatives is fundamental for fund raising and visibility.

SLOVAKIA

In Slovakia, four examples could be identified as good practice in a national context. The initiatives are summarized in the following table:

Table 9: Good practices in Slovakia

Initiatives	Organization	R&D Sector	Career Stage	Type of Initiative	Size of Organisation	Starting Year
"Centrálny informačný portál pre výskum, vývoj a inovácie (CIP VVI) Central Information Portal for Research, Development and Innovation (CIP RDI)"	Slovak Centre of Scientific and Technical Information (SCSTI)	GOV	Career entry, Professional experience	Awareness, Gender in research, Individual, Structural	110	2008
Committee for Equal Opportunities	Slovak Academy of Sciences in Bratislava	HES	Career entry, Professional experience, Qualification	Individual	2242	2005
CentreD - Kindergarten for pre-school children of young scientists	Slovak Academy of Sciences in Bratislava	HES	Career entry	Individual, Structural	2242	2006
Centrum rodových štúdií Gender Studies Centre (GSC)	Comenius University in Bratislava	HES	Career entry, Professional experience, Qualification	Awareness, Individual	4355	2001

1. Which barriers are addressed by the initiatives?

In summary, the Slovak initiatives try to attract attention to and increase the understanding of gender equality issues as it has been given low importance so far. Although the lack of women researchers in top positions is not recognized, barriers to career development of female researchers are present.

2. What were the motives for launching the initiatives?

As scientists as well as the general public are less aware of gender equality, participation of women and men in decision-making positions in research is not equal. Furthermore, female early-stage researchers are confronted with barriers regarding career opportunities and are often hampered in finishing their PhD in time. In general, there is a lack of gender research and gender education in Slovakia.

3. What are the benefits for the R&D-organizations?

The benefits of gender equality measures can mainly be seen in a long-term perspective. Considering the topic from different angles by bringing together views of both sexes, better solutions can be produced. In addition, there is a strong economic incentive for R&D-organizations to make use of highly qualified female staff in leading positions.

Research organizations in the business enterprise sector and public non-profit sector still do not consider gender equality as an important issue. However, large production-oriented companies with foreign management such as Whirlpool, Hewlett-Packard or GlaxoSmithKline (without R&D in Slovakia) consider gender equality and diversity in their strategies and could serve as good examples for domestic companies. Small companies do not take the topic into account and are not interested in it (due to other problems related to economic and legal reforms).

Public research and higher education institutions start to recognize the gender equality agenda but mainly as a result of external pressure, EU campaigns, directives and international projects. It was perceived in interviews that 'equal opportunities' is the preferred term to 'gender equality'. The term 'gender equality' is less accepted as it expresses a negative connotation. The general perception is that this is only the agenda for 'frustrated and unsatisfied' women.

4. Which factors of success did you identify during your investigation?

It was experienced that a high awareness of the importance and understanding of initiatives addressing gender equality has to be given at research organizations as well as in the general public. As the topic is perceived as less important, it is not possible to implement any good initiatives. In addition, gender equality needs to be institutionalized by implementing a strategy or an initiative. Enthusiasm of individuals, who are willing to work without any funding and do overtime, is welcomed but it is crucial that the organization's leadership takes responsibility and commits itself to an institutional strategy.

5. What were the barriers and obstacles encountered whilst conducting the initiatives?

The following barriers were encountered during the implementation of the initiatives:

- the lack of institutional support
- the lack of funding (or no funding at all)
- limited awareness of the issue and underestimation of the problem
- tokenism – declarative character of initiatives, but no strong commitment.

In Slovakia, no top-down approach of governmental commitment (i.e. in strategic documents) exists to push R&D and higher education institutions towards gender equality. The whole agenda of gender equality is left to the Ministry of Labour, Social Affairs and Family that still regards the problem more as an issue of women or family.

6. What are the lessons learned? What could have been done better?

The introduction and implementation of gender equality is a long-term process that needs time, patience and a systematically daily work. The results will be seen in a long-term perspective. Pressure from the European Commission (directives, recommendations, campaigns, projects involving academics from various countries) is crucial especially for countries from Central Eastern Europe.

Leaderships of research and higher education institutions do not commit to do “anything” in the area of gender equality. This can partially be explained with the existence of an extremely conservative environment in addition to a male-dominated culture which however would never be admitted. Gender equality and women in science are not considered as research topics in higher education and R&D institutions. It is difficult to receive grants for doing research on women in science or to collect statistical data.

SLOVENIA

In Slovenia, three examples could be identified as good practice in a national context. The initiatives are summarized in the following table:

Table 10: Good practices in Slovenia

Initiatives	Organization	R&D Sector	Career Stage	Type of Initiative	Size of Organisation	Starting Year
The Body of Enhancement of Equal Opportunities at University of Primorska	University of Primorska	HES	Qualification Career entry	Structural Awareness	534	2006
Exhibition "Women with PhDs in Computer and Information Science in Slovenia"	Jožef Stefan Institute	GOV	Pre-University Qualification Career entry;	Individual Awareness	860	2004
Young Researchers Programme	Jožef Stefan Institute	GOV	Qualification	Individual	860	1985

1. Which barriers are addressed by the initiatives?

The initiatives identified address different barriers ranging from bureaucratic obstacles that restrict or impede equal promotion to existing stereotypes in certain subjects of study (i.e. computer and information science is a male-dominated research field in which women cannot succeed).

2. What were the motives for launching the initiatives?

Stereotypes related to studies which are perceived to not be suitable for female researchers have to be tackled on two different levels. First, as the industry sector is lacking scientists, young people, especially women, need to be encouraged to expand their career opportunities and taking a career as a researcher into account. In addition, the Slovenian society at large should become aware of female role models in science who attract attention to the gender imbalance in research.

3. What are the benefits for the R&D-organizations?

By funding graduate students at the state level (especially in the young researchers program) there is an immediate impact on R&D-organizations which are provided with an enlarged work force and could enlarge their research teams. Institutions that participate in this initiative are more visible as future employers and are perceived to be caring about equality and gender balance in science and research.

4. Which factors of success did you identify during your investigation?

One factor of success that was identified across all initiatives is the commitment of leadership at institutions implemented. Specifically, the Body of Enhancement of Equal Opportunities helped to introduce a favourable climate for equal opportunities at the University of Primorska and now supports employees and students who come across barriers regarding gender equality. The Young Researchers Program's performance profited from regular calls for applications that are open to all students being successful in their undergraduate studies. Namely, the funding offered in the calls on national level depends on the state budget and other national priorities.

5. What are the lessons learned? What could have been done better?

A large proportion of Slovenian students are supported by the Young Researchers Program during their graduate studies. The scientific quality of mentors has been the main criterion for institutions participating to receive funding but this has changed and will probably change again in the future. Thus, the evaluation criteria of the Young Researchers Program are highly dependent on the current period of government.

Thematically specific exhibitions such as the 'Women with PhDs in Computer and Information Science in Slovenia' have to be accompanied by some sort of interactive activity, i.e. personal presentation of the female role models, in order to directly attract the attention of young people.

SPAIN

In Spain, five examples could be identified as good practice in a national context. The initiatives are summarized in the following table:

Table 11: Good practices in Spain

Initiatives	Organization	R&D Sector	Career Stage	Type of Initiative	Size of Organisation	Starting Year
Commission of Women in science	CSIC, Spanish National Research Council	GOV	Career Entry Professional Experience	Structural Awareness	> 250	2002
Equality Observatory	UAB, Universitat Autònoma Barcelona	HES	Qualification Career Entry Professional Experience	Structural Awareness Gender in Research	> 250	2005
Institutionalization in order to promote coordinated activities	AUDEM, University Women Studies Association	PNP	Qualification Career Entry Professional Experience	Awareness Gender in Research	50-250	1991
Specialized Group of women in physics	RSEF, Royal Spanish Physics Society	PNP	Career Entry Professional Experience	Structural Awareness	> 250	2002
Workshop: From woman to woman: practical advice on how to get and stay in science	IRB, Biomedical Research Institute	PNP	Career Entry Professional Experience	Awareness	> 250	2008

1. Which barriers are addressed by the initiatives?

The most important barriers that were identified in Spain were those related to the 'glass ceiling' as promotion of women in reaching seniority levels in the R&D sector is hampered and role models in R&D, particularly in the natural and life sciences and engineering are lacking. Reasons for that are insufficiently transparent recruitment and promotion procedures and the institutional encouragement of a 'long hours culture' that may act as a barrier for some women (as well as men) in their career progression. Recruitment of new and promotion of existing employees is often based on personal networks that are mainly male-dominated and thus, disadvantage women. These barriers were mostly addressed by initiatives promoting gender equality among staff and are supported by The Equal Rights Law, approved in March 2007 and the recent Reformed University Law, that cover equal opportunities between women and men in Spain and, more specifically, gender equality in universities and scientific committees.

Actions that promote gender topics in research address two different types of barriers: the undervaluation of researchers engaged in mainstreaming gender in their studies (and the

consequent lack of funding that this entails) and the lack of gender perspective in most higher education programs, particularly in natural and life sciences and engineering.

2. What were the motives for launching the initiatives?

The most common motive for launching initiatives is the under-representation of women, particularly in senior positions, in universities and scientific committees. Gender equality as a priority of Spanish government policies in higher education and work in general provided to be the backdrop to all initiatives. By analyzing all examples, three types of initiative were identified:

- *1st stage towards gender equality awareness:* In particular, this stage refers to initiatives that launch specific actions to exploit an opportunity (such as participation in a program or harnessing the occasion of visiting experts). This means that gender equality is not considered as a priority for the institution but rather, is increasingly considered as criteria.
- *2nd stage towards a gender equality systematic approach:* These initiatives are motivated by gender inequality evidence or/and recent gender concern within the institution (or specific highly committed groups). Some are illustrated by previous reports and diagnoses and motivated by negative results on inequality and sexism within their institution. This type of initiative tends to implement systematic policies (which entails a highly committed leadership).
- *3rd stage towards gender inequality extinction:* In these initiatives, awareness and systematic approach have already been achieved and they target at enhancing or widening the scope of already existing activities by creating an institutional body or designing a more coordinated and efficient strategy.

3. What are the benefits for the R&D-organizations?

The most common benefit for the institutions is the reputation they gain by being perceived as an organization that promotes gender equality: an image of a 'modern' organization with a broadened horizon is communicated. Participation in and implementation of awards and prizes at these organizations includes gender equality criteria which are also supported by legislation. In addition, positive effects on the institution itself are also recognized: female employees are more aware of and motivated to participate in promotion procedures. Knowledge and expertise created is also useful when compulsory gender equality measures are implemented.

4. Which factors of success did you identify during your investigation?

One of the most significant factors of success is the importance of an involved leadership to manage and lead the initiative's process. However, in institutions with a lack of strongly gender-committed leaders sharing of common situations and benefits as well as voluntary individual involvement can also lead to successful results of the initiative. Support coming from international institutions, national networks or legal framework networking was crucial to boost the launch of some institutions. The use of gender experts is also

considered as an important factor of success in terms of good results and legitimacy for many initiatives. Generally, equality promotion in Spanish legislation and government structure (Equality Ministry, Women and Science Unit, Innovation Minister and Equality and University laws) has reinforced gender awareness and therefore, became an important success factor for recent initiatives.

5. What were the barriers and obstacles encountered whilst conducting the initiatives?

In some cases, the initiatives were deemed unnecessary due to various reasons and preconceived ideas in public and governmental institutions, such as women scientists should feel proud enough to have arrived where they are and can already claim a superior status (compared to other women). Universities and science in general are regarded as gender neutral and meritocratic environments. Therefore, gender inequality responds to the lower scientific performance of women within the institution. A third reason relates to the perception that inequality originates from external environmental problems and therefore it is perceived if things improve externally, they will improve internally as well.

Several subtle barriers within the institutional work culture persist and block progress to goal achievement: In systematic approaches involving participative actions, the uneven commitment or lack of experience of the units in charge of specific actions, can lead to irregular achievement of target objectives. In R&D institutions, especially those with a high dependency of results on funding, research staff is overly motivated by results and therefore not involved enough in measures and initiatives regarding working conditions.

6. What are the lessons learned? What could have been done better?

A gender-aware leadership is very important to boost implementation and minimize barriers. However, initiatives that only have the support of the leadership (without any structural commitment) are prone to policy changes. It is important to adopt a more inclusive perspective that involves the scientific community at large and demonstrates the importance of the gender perspective in all areas, not only in the field of gender experts. This perspective includes the involvement of men and early-stage researchers in the implementation of gender equality initiatives. Young scientists are still not sufficiently aware of the importance of gender equality initiatives since they have not yet touched the glass ceiling and may believe that inequalities respond to other reasons (they do not think of gender as an impediment to career progression).

In order to enhance results, as well as minimize efforts and structural barriers, there is a need for consensus building and involving the whole structure through formal agreements, particularly with decision-makers and institutional bodies. Involving prominent figures and leaders (not directly related to the gender field) and taking in a wider perspective, is a way of attracting a larger audience and overcoming the minority barrier. Key messages can be introduced after a receptive audience has been guaranteed.

Gender balance progress has to be monitored and evaluated to become a reality. This is more effective if it is implemented from the start. The monitoring should be carried out through a systematic collection, dissemination and use of gender-disaggregated statistics.

In the day-to-day, many good practices achieve their objectives thanks to the participation and experience of gender-committed researchers and gender equality policy experts. All measures can benefit from the expertise and excellence of qualified experts at the diagnosis and planning stages.

ANNEX 2

GENDERA QUESTIONNAIRE

General information on the university or enterprise in which the initiative is/was carried out:

1	Country:	<ul style="list-style-type: none"> • Austria • Germany • Greece • Hungary • Israel • Italy • Slovakia • Slovenia • Spain
2	Region:	
3	Name of enterprise / university	Name
4	Sector:	<ul style="list-style-type: none"> • Higher Education Sector • Business Enterprise Sector • Governmental Sector • Private non Profit
5	Line of business	<p>Please describe shortly what the line of business of the enterprise is?</p> <p>If it is a higher education institution please indicate in which scientific fields it is specialized. (e.g. technical university, medical university etc.)</p> <p>Max. 200 characters</p>
6	Size of enterprise / university Number of employees** Please fill in numbers for the whole enterprise/university even if the initiative was conducted only by a smaller part or sub-unit. Please consider this also for the following questions.	Number*, please count only employees, not freelancer
7	Number of female employees	Number*, please count only employees, not freelancer

8	Number of employees in top positions	Number*, please take only first and second top level management into account
9	Number of women in top positions	Number*, please take only first and second top level management into account
10	Number of students (universities only)	Number*
11	Number of female students (universities only)	Number*
12	Number of employees in R&D (not administrative staff)	Number*
13	Number of female employees in R&D (not administrative staff)	Number*

* Reference year 2008

** Shares of women will be calculated by the database automatically.

Information related to the initiative:

14	Name of initiative:	
15	Main implementing organisation:	Name
16	Contact details of main implementing organisation:	Address, Contact person, Telephone, E-Mail, homepage
17	Other involved organisations and their role	Name of organisation, homepage Short description of the organisations role
18	Starting date	Ongoing initiatives have to be running for a half year at least. Please indicate Month & Year.
19	End date	The End date has to be after 1 st May 2004. Please indicate Month & Year. For all those initiatives which do not have an end date already or are not limited to certain time period please click "still ongoing"
20	Type of initiative, located on the stage of career progression of women scientists Multiple response possible	<ul style="list-style-type: none"> • Pre-University • Qualification (Higher Education) • Career entry • Professional experience
21	Type of initiative referring to strategic objectives Multiple response possible	<ul style="list-style-type: none"> • individual (human development measures, that target individual women without systematic approach, e.g. promotion of a female employee to gain a top position) • structural (measures to steer the corporate culture towards equal opportunities,

		<p>initiatives for the integration of equal opportunities into operational standard procedures (e.g. gendered quality management (QM) system, gender-equitable collective agreements, etc.),</p> <ul style="list-style-type: none"> • awareness (e.g. gender training or gender mainstreaming courses for better sensitisation and awareness of equal opportunities) • gender in research
22	Which barriers in the career stages of females does the initiative address?	<p>Please describe the barriers in a short way. E.g. stereotypes like Computer and Information Science is a study programme which is not suitable for girls. Or: girls often don't get involved with technology and natural science during their socialisation and don't get interested in these fields.</p> <p>You can enter multiple barriers if different barriers are addressed.</p> <p>Max. 500 characters</p>
23	Objective(s) of the initiative	<p>Please differentiate between short and long term objectives!</p> <p>Max. 1000 characters</p>
24	Demonstrable success of the initiative	<p>In comparison to the objectives. Where all the targets reached? Which objectives were attained and which not?</p> <p>Please consider short and long term objectives. Please describe in a short way, why the initiative fulfils the criteria "demonstrable success" and is hence good practice. The WP-Leader will need a comprehensible argumentation for the evaluation.</p> <p>Please find further helpful information in the manual, paragraph V.1.</p> <p>Max. 1000 characters</p>
25	Motives for launching the initiative	<p>Please try to find out, why the initiative was implemented. Was it for economic reasons (which ones), because of shortage of staff, skilled workers etc. This will be very interesting for us for WP3 for developing strategies to boost gender balance in R&D.</p> <p>Max. 1000 characters</p>

26	Equal opportunity measures in the organisation before the initiative	Before the start of the initiative, was there a favourable approach towards the achievement of equality between men and women in the organisation? Max. 500 characters
27	Target group(s) of the initiative	Differentiate between direct and indirect target groups. ⁹ (E.g. School-girls, female scientists with children, senior management...) Please fill in a list If the initiative addresses a specific scientific field please indicate it here.
28	Implementation of the initiative	Description of the implementation in max. 2000 characters <ul style="list-style-type: none"> - Who was responsible for conducting the initiative (function) and where was the initiative internally settled? - How many people (men & women) conducted the initiative? - What resources (time and money) were available to implement the initiative? - How was the initiative internally managed and supervised? - How was the initiative implemented, what were the steps to be taken? What activities were carried out? - How was the initiative accepted by the target groups? Max. 2500 characters
29	Factors of success	Important aspects of the initiative that are identified as vital for conducting the initiative successfully. This information will be very helpful for developing strategies to boost gender balance in

⁹ Direct target groups are participating in or are affected immediately by the initiative and its activities. Indirect target groups are those persons who do not participate in the initiative but are affected by the behavior and actions of the direct target group. For example gender training with school teachers: teachers are the direct target group of the initiative because they participate in the initiative and their actions should be affected directly by the initiative. The pupils are the indirect target group because their behavior should be changed by the teachers and their new knowledge on gender relations and equality.

		R&D. Max. 500 characters
30	Obstacles, barriers to implementation	Max. 1000 characters
31	Lessons learned	<p>What are the lessons learned? What insights did you gain during carrying out the initiative? What would you make different, if you would have to conduct the initiative again? What should be improved?</p> <p>Please try to find out, what we can learn from this initiative for developing strategies to boost gender balance in R&D.</p> <p>Max. 1000 characters</p>
32	Benefit for the organisation	Max. 500 characters
33	Sustainability of the initiative	<p>What remains / will remain after finishing the initiative? Was the initiative continued, renewed or accepted as organisational standard? Who is responsible for the sustainability of the concept?</p> <p>Please find further helpful information in the manual, paragraph V.2.</p> <p>Max. 500 characters</p>
34	Transferability	<ul style="list-style-type: none"> - It was already taken from another context before (from another country, sector or size of organization) - It has been already transferred or will be transferred to another context - It is in principle conceivable to transfer this initiative to another context - It is not transferable <p>Please find further helpful information in the manual, paragraph V.4.</p> <p>Max. 500 characters</p>
35	Systematic approach	<p>Is the initiative embedded in a wider strategy to promote equal opportunities?</p> <p>Is gender balance an objective for the organization furthermore and does this also affect R&D directly or indirectly?</p> <p>Please find further helpful information in the manual, paragraph V.3.</p>

		Max. 500 characters
36	Innovation	Does the initiative contain any novel aspects related to the national context? Please find further helpful information in the manual, paragraph V.5. Max. 500 characters
37	Monitoring / Evaluation	<ul style="list-style-type: none"> • yes, Link if a report is publicly available • no
38	National context	Link to the preamble
39	Summary: This initiative is good practice because...	Max. 500 characters
40	Positive assessment of demonstrable success	Yes No
41	Positive assessment of sustainability	Yes No
42	Positive assessment of systematic approach	Yes No
43	Positive assessment of transferability	Yes No
44	Positive assessment of innovation	Yes No
45	Problems during the assessment	Please describe if you had any difficulties gaining the information needed etc. Only for internal use!

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