



# MORPHEUS

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## D6.2 Gender Action Plan

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## Table of Contents

1. INTRODUCTION .....	1
2. EXECUTIVE SUMMARY .....	1
3. GENDER ISSUE ANALYSIS.....	1
3.1. MOTIVATION.....	1
3.2. BASIC TERMINOLOGY .....	2
3.3. STATUS IN THE EUROPEAN ENVIRONMENT .....	2
3.4. ANALYSIS OF THE STATUS WITHIN THE MORPHEUS PROJECT.....	4
4. OBJECTIVES .....	6
4.1. GENDER ACTION RESPONSIBILITIES.....	6
5. GENDER ISSUE ACTIONS .....	7
5.1. DISSEMINATION .....	7
6. CONCLUDING SECTION .....	8
6.1. CONCLUSION .....	8
7. REFERENCES .....	9
GLOSSARY.....	9

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## Table of Figures

Figure 1 Percentage of Bachelor's Degrees awarded to Women.....	3
Figure 2 Women researchers head count (1999) .....	4
Figure 3: Female participation to field of study .....	4
Figure 4 Presence of women in MORPHEUS industrial partners.....	6
Figure 5 Presence of women in MORPHEUS academic partners.....	6

## Table of Tables

Table 1 Participation of women in MORPHEUS .....	5
Table 2 Role of women in the MORPHEUS project.....	5

## 1. Introduction

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MORPHEUS (Multi-purpOse dynamically Reconfigurable Platform for intensive HEterogeneoUS processing) is an integrated project, supported by the IST-Programme under the 6<sup>th</sup> European Framework Programme for Research and Technological development; it addresses innovative solutions for embedded computing based on dynamically reconfigurable platform and tools.

All the FP6 projects are asked to produce a Gender Action Plan, according to the European Commission's desire to promote **gender equality** as a **mainstream issue** and to increase the participation of women to European research. An introduction about this issue and a summary of the recommended policies from the European Commission are available at [WAS].

A Gender Action Plan is required to contain:

- 1) an analysis about the present status regarding the participation of women within the project, compared to the general situation in research,
- 2) proposals of concrete actions to be carried out within the context of the project in order to improve the situation.

According to these principles, the MORPHEUS project will do its best in order to integrate the gender dimension within the project. The effort made within the project and the consequent policy with respect to the gender issue are consolidated in this deliverable (D6.2, Gender Action Plan)

This deliverable provides complementary information to complete the standard questionnaires about the gender action issue provided by the EC. A Gender Action Plan, according to the EC rules is supposed to be the consolidation of the EC standardized questionnaires on this issue, filled by all the partners. At this time in the project it was not possible to compile those questionnaires; some points mentioned in the usual questionnaires are not treated in this deliverable that however provides some added value on the usual EC questionnaire. Another issue is that for the moment, the updated and on-line template of the questionnaire is not available from the EC. Thus the solution that we propose is to split the deliverable in two main releases: this one that provides a preliminary analysis of the MORPHEUS project and a second part that will be completed near the end of the project when the questionnaires will be available and we will be able to provide consolidated info about them.

## 2. Executive summary

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The present deliverable documents the status of women participation to the MORPHEUS project. It introduces the action planned to promote a gender aware policy within the consortium.

## 3. Gender issue analysis

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### 3.1. Motivation

The European Commission adopted communication "Towards a European Research Area" (ERA, 2000) [ERA] defines a common policy for European research. Its aim is to enforce more coherent policies about research, so that the overall impact of European research can be improved and become more competitive in the market. That document, in section 5.3 entitled "Greater place and role for women in research", contains the following analysis and recommendation: "There are not enough women in research in Europe. Although they account for 50% of the university graduates and even exceed the number of men in some subjects (life sciences and technologies, for example), they are not found in the same proportions in the laboratories and research departments of companies. Their progress in scientific career is slower than that of men and their numbers start to rarely as we climb the ladder of responsibilities, at the top of the academic hierarchy in the European Union, for example, there are on average fewer than 10% women. There are several factors behind this situation, in particular certain discrimination mechanism and anticipation of them by women and little attention paid to particular constraints facing women in the conduct of their

professional lives. This is a loss for women themselves, for research and for society. Measures have been taken in all the Member States to rectify this situation. The European Union has taken a major initiative in this area. In February 1999, the Commission presented a communication entitled "Women and science" which was the subject of a favourable resolution from the Council. It is accompanied by a plan of action which is now being put into effect. This effort should be continued and developed and the aim of increasing the number of women in research will be achieved that much more easily if it is pursued jointly at national and at the Union level."

The main reasons for this unbalance are not sector specific, but they are rather general and implied by the overall organization and infrastructure in the society. Causes for these differences are lower parental support, influence of teachers, and reduced access to computers. However once women manage to overcome these impediments, there are no sensible differences in performances (e.g. scores at the higher education levels, number and quality of published research results) between women and men researchers.

Specific measures must be taken to address the under-representation of women in research. A transition to a more effective economy founded on knowledge will not be successful while a large percentage of one half of the human resources is not involved in the process. This is a waste of human resources and an obstacle to the development of the European society.

In Europe the labour supply is getting smaller and aging, the situation is even more critical as far as highly qualified workers are concerned, it is thus crucial to widen the recruitment base. If we consider that women are under-represented in the European industry it is natural to resort to women as a precious resource in particular if we want to reach the ambitious target in research that the EC poses (corresponding to an increase in expenses of the Gross Domestic Product for research from 1,9% in 2000 to 3% in 2010, involving the creation of 700.000 jobs in research).

Gender-balanced teams have been shown by management studies to perform better and might be one of the keys for competitive edge. Moreover women represent a distinct customer group with its own market requirements and they often influence also the market requirements of the entire family, so it is more and more important that they are actively involved in the design process.

### 3.2. Basic terminology

The following basic terminology has been taken from a set of documents in the reference list, it is compliant with the EC view. It is written here to remind the most fundamental concepts used within this document.

- **Gender:** all the examined documentation in the field by the term gender do not intend a natural difference between the sexes but a cultural and socio-economic interpretation of the roles of women and men in society.
- **Gender equality:** gender equality means an equal level of empowerment, participation and visibility of both genders in all spheres of public and private life. Gender equality is not to be thought of as the opposite of gender difference but rather of gender inequality. It aims to promote the full participation of women and men in society.
- **Gender Mainstreaming:** in the integration of gender equality in organizations, culture, in all programs policies and practices to enforce gender equality in any decision.
- **Leaky Pipeline:** it is the progressive disappearing of women at different stages of hierarchy in academia and industry.

### 3.3. Status in the European environment

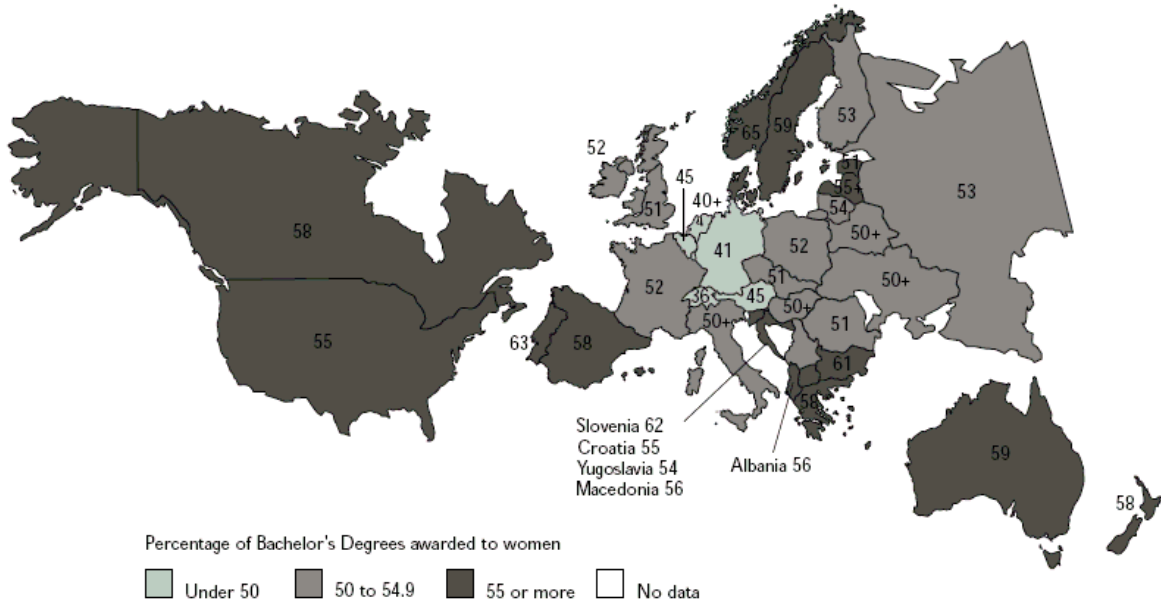
Statistics provide us a snapshot of the reality; in this case they help us to know about the situation of women in research. After year 2000 more documents are available that publish gender disaggregated statistics. The availability of gender disaggregated statistics made possible to perform analysis as the one contained in this deliverable, even if in some cases data are still scarce and non-homogeneous due to differences in the time of collection and in the differences due to the national environments from which the information is gathered. A fundamental document is the She

Figures [SHE] book produced by the Helsinki Group for Women and Science published in 2003 and 2006.

The status about the presence of women in European research can be summarized by the concept of “leaky pipeline”, it expresses the progressive disappearing of women passing from university to industry or academy and as we consider higher hierarchical roles in career. The concept of leaky pipeline is taken from [OSB].

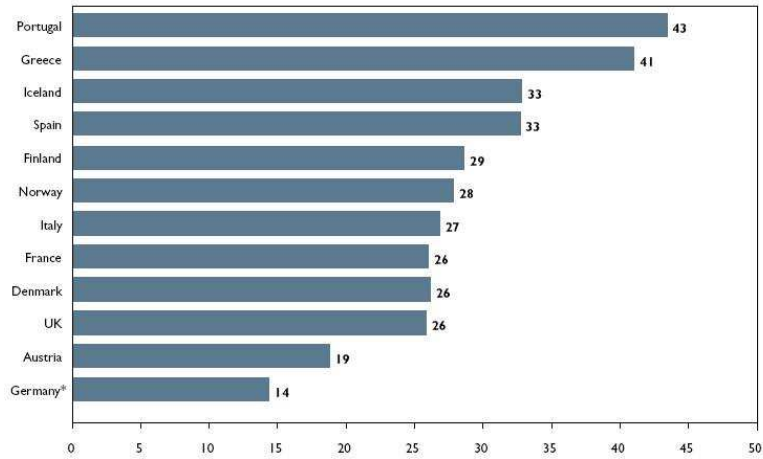
Figure 1, reprinted from Scientific American (October,1999), gives an overview about the percentage of Bachelor’s Degrees awarded to women in Europe, north America and Australia.

The situation has improved from 1999 leading to an overall 58% of women who get a degree in the university in 2005 [EQU] in Europe. So women get more than one half of the degrees in Europe. Such a score starts to get smaller reaching 41% of the total PHD awarded to women. The percentage of women then reduces to 30% if we consider researchers in the academy and to 15% if we talk about the industrial research environment. As a term for comparison we remember that in the US the percentage of woman researches in the industry is 19% and in the academy it is 25%.



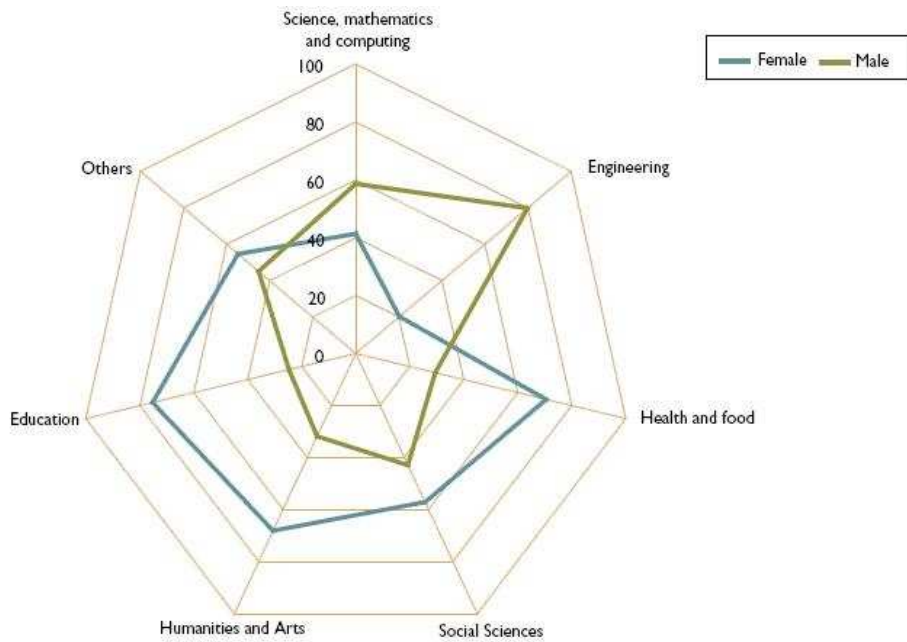
**Figure 1 Percentage of Bachelor’s Degrees awarded to Women**

There are of course differences among the countries; Figure 2 shows the global percentage of women researchers in 1999, the corresponding percentage in industry was ranging from 10% to 28%.



**Figure 2 Women researchers head count (1999)**

There are also variations about the participation of women depending on the field of study, lower percentages are in engineering and also in science-mathematics-computing. Figure 3 shows the participation of women divided by field of study at the university in Europe; it partially explains why the number of women researchers in industry is low. Industrial research relies mostly on people who are qualified in science, mathematics, computing and engineering, where the female participation is still low. It doesn't anyway explain why the percent of women in industrial research is as low as 15%.



**Figure 3: Female participation to field of study**

**3.4. Analysis of the status within the MORPHEUS project**

The data to perform this analysis has been collected from the MORPHEUS contact list, which is available on the collaborative web site that we are using inside the project to exchange data between the partners. From that document it is possible to retrieve information about all the people involved in the project; relevant pieces of information are: the sex, the role in the project and the partner organization.

The actual status about women participation to the MORPHEUS project is shown in table 1.

	Total	Women	Women %
MORPHEUS project	106	29	27.35%
industry	65	18	27.69%
academia	41	11	26.82%

**Table 1 Participation of women in MORPHEUS**

The overall result, considering that out of 106 participants 29 are women (corresponding to 27%), is quite good if we compare it with the statistics from the industry and academia. In fact, statistics taken from the report "Women in industrial research, a wake up call for European Industry" [WIR], outline for the European industry a woman participation of 15%. In the public sector, universities and research institutes, the proportion of women researchers is about 30%. Considering that the MORPHEUS consortium is made of a mixture of partners including 65 people from industry and 41 from academia and public research centres our result does not confirm completely the common trends in the European Community. We have in fact similar results for industrial and academic partners, near to the average number of researchers in European academy and significantly higher than the average number of women researchers in industry, even though such a result is still far from the 40% posed as target for FP6 projects [FRAU].

Table 2 reports some further analysis. It divides the participants according to four main roles in the project: management, marketing, technical and administrative (please take into account that due to the project structure and to the size of the participating organizations one people often plays more than one role in the project).

	Total	Women	Women %
Management	34	2	5.88%
Marketing	4	2	50%
Technical	68	9	13%
Administrative	42	16	38%

**Table 2 Role of women in the MORPHEUS project**

If we consider the project from the management point of view, as far as the female participation is concerned, we have to conclude that it is still scarce. We, in fact, counted 2 women out of 34 managers, confirming the common trend from the European Industry and Academia. To calculate this data we have included in the project management all the people participating to the General Assembly, Steering Exploitation Board and to the Executive Board. In the marketing, the percentage of women in the project is high (50%), but the number of people specifically involved in this issue is very small. Coming to the pure technical contributors, the percentage of women reaches 13% with 9 participants out of 68. The number of women participating to MORPHEUS about administrative issues is quite high with 15 members of 42 reaching a percentage of 38%.

Figure 4 and 5 summarize the situation of each partner; they present real figures about the total number of participants and of women-participants. We divided the analysis in two parts regarding the industrial and the academic partners.

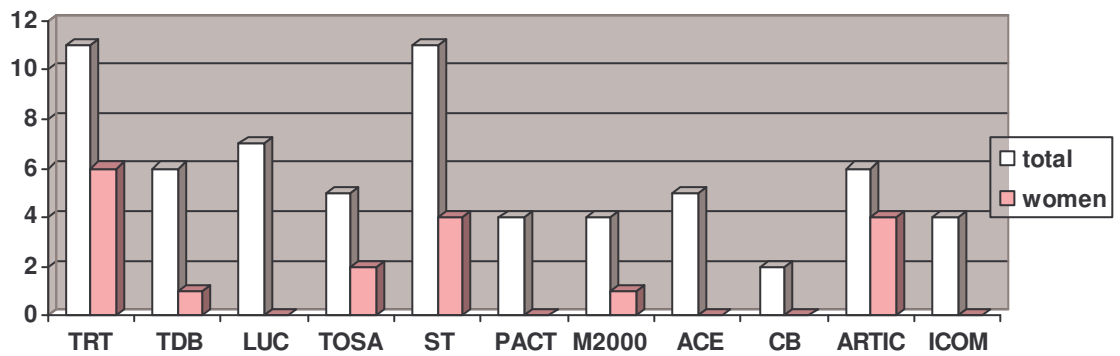


Figure 4 Presence of women in MORPHEUS industrial partners

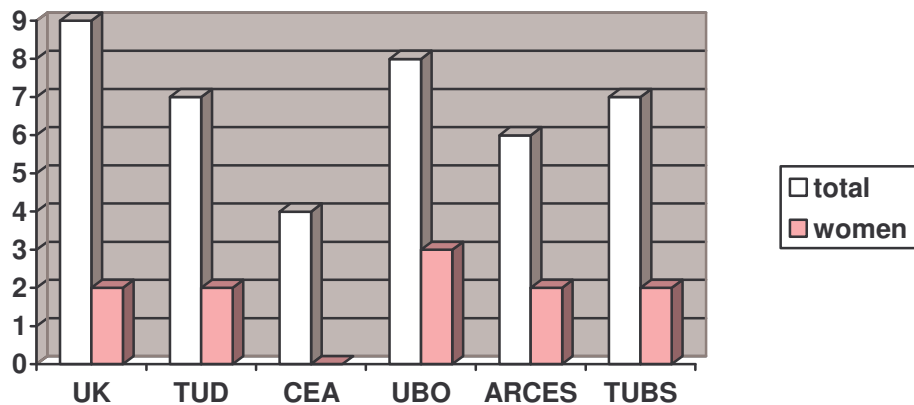


Figure 5 Presence of women in MORPHEUS academic partners

## 4. Objectives

The major objectives as far as the gender issue is concerned, within the MORPHEUS project are the following:

- To encourage the participation of women in the project at all levels in: technical development, management, and marketing. An increased number of women in the MORPHEUS project will contribute to the goals defined by the European Commission.
- To rise the gender-awareness in the domain of reconfigurable computing. This research domain is quite young, it is strongly influenced by the situation in industry and academia, it is strongly based on disciplines such as engineering, computer science and mathematics. It can be an important test case about the gender issue.

### 4.1. Gender Action Responsibilities

As already established in the DoW, all the participants to the project are committed to establishing an environment for equal opportunities. The responsibility of monitoring the gender action issue within the project is of TRT that will take care to encourage the participation of women in the project.

## 5. Gender Issue Actions

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The MORPHEUS industrial and academic partners promote a policy for equal opportunities at hiring, and so they will not take actions that contradict such policy as far as the gender issue is concerned.

Within the MORPHEUS project the gender action plan outlines the following activities that will be carried out in order to fulfil the two main objectives defined in section 3.3. This set of activities is very limited and does not cover in depth the gender action issue as it should be. It anyway allows to monitor the actual situation and to provide some improvement to it, limited to the project, so that the particular contribution provided by women to the project is improved and taken in the correct consideration. The specific actions taken within the project can be grouped in the following three major areas.

- Taking specific actions to bring more women into the project. This action includes all the initiatives aimed at involving women directly into the MORPHEUS project.
- Trigger the interest of female-students in the field of reconfigurable computing. This action includes all the dissemination activities of the MORPHEUS project, they will be targeted also to the issue of raising women participation and awareness.
- Monitoring the gender issue within the project. This activity involves the publication of gender-disaggregates statistics about the industry, the original organizations of the project partners and the conduction of the project.

The list of activities just defined can be expanded into more specific implementation actions:

1. Enhance the understanding about the gender issue within the consortium promoting women participation and awareness.
2. Leverage onto women as resource internally to the consortium, when possible. In such a manner the MORPHEUS project will provide an example of good practice, providing the feeling that being a woman is compatible with research in such a complex field as reconfigurable computing, at all the levels: technical, managerial and marketing.
3. Produce a general, reusable presentation about the gender action plan, corresponding to the contents of this document (D6.2), which could be used as reference case study example.
4. Add a page within the MORPHEUS public web site which describes the gender issue in general with respect to research, in the particular domain, and within the project. It could be used to raise the awareness about the issue and to contact women-researchers or students which are interested in the reconfigurable computing domain.
5. Encourage, during our dissemination and training activity which is quite huge within the project, the participation of women both as interested attendees and as students, stating that within the MORPHEUS project we are particularly sensible to the gender issue.
6. Publish gender statistics about the project itself and the original organizations to which the participants belong, performing a comparison with the statistics from general statistics about European projects and the appropriate industry and academic compartments.
7. Avoid while writing project deliverable documents to use a language that implicitly assumes men as readers.

### 5.1. Dissemination

The Gender Action Plan (this document, D6.2) is not confidential; it is made for public distribution also outside the consortium. We encourage the possibility to exchange best practice with other European projects, even though such events are difficult to plan right now.

Details about the gender action plan will be available at the MORPHEUS official web site <http://www.morpheus-ist.org/gender.htm>.

## **6. Concluding section**

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### **6.1. Conclusion**

The objective of this deliverable was to introduce the basic motivations to perform a Gender Action Plan, to analyze the actual situation in the MORPHEUS project compared to the current status in the European Community and to propose some concrete action for improvement.

Results of this analysis show that the MORPHEUS project is slightly in a better shape, as far as women involvement is concerned, than the average industrial/academic organization in Europe.

Nevertheless those results are still far from the recommended expectations from the European Community. A set of actions has been defined for improvement.

## 7. References

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[WAS] Women and Science: Excellence and Innovation – Gender Equality in Science, available at [http://europa.eu.int/comm/research/science-society/women-science/women-science\\_en.html](http://europa.eu.int/comm/research/science-society/women-science/women-science_en.html)

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[FRAU] Guide to writing a Gender Action Plan for submission with proposal to the European Union's 6<sup>th</sup> Framework Programme - Fraunhofer Gesellschaft [http://www.fraunhofer.de/fhg/Images/gender\\_word\\_engl\\_tcm6-18432.pdf](http://www.fraunhofer.de/fhg/Images/gender_word_engl_tcm6-18432.pdf)

## Glossary

DoW	Description of Work
EC	European Community
FP6	Framework Programme 6
IST	Information Society Technology, it is one of the thematic priorities of FP6
MORPHEUS	Multi-purpOse dynamically Reconfigurable Platform for intensive HEterogeneoUS processing