



OPEN **I**NFORMATION ENVIRONMENT
FOR COLLABORATIVE **P**ROCESSES
THROUGHOUT THE LIFECYCLE OF A BUILDING

D25

REPORT ON THE GENDER ACTION PLAN

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EXECUTIVE SUMMARY

Gender in research is an important topic. As a NMP project (Nanotechnologies and nano-sciences, knowledge-based multifunctional materials and new production processes and devices) gender is not part of the core research in InPro. However, as people – men and women – are the end-users of the resulting product – the buildings – the gender aspects are still relevant. So is the question of equal opportunities in research.

During the project's time, the gender balance within the project has improved. Around 25 % of the project's participants are women. The Project Coordinator as well as the Project Manager are women, making the project management team consist of 50% women and 50% men. There are also six female task leaders.

The most important issues in InPro that dealt with gender aspects were handled within tasks 1.2 and 2.3. Task 1.2 proposed solutions on how to select the most functional team for the early design phase of a building project. This team should be as multi-dimensional as possible. Task 2.3 stressed the importance of capturing all stakeholders' functional requirements, including the male and female end-users.

The model-based way of working, proposed by InPro, implies the development of new roles in the construction team. This should increase the interest and the career opportunities for women in the construction sector. As a consequence, the interest for higher education in construction should increase among women.

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1 INTRODUCTION

The question of gender in research is important. The European policy of equal opportunities between women and men is stated in the Treaty on European Union. To meet this requirement the European Commission has adopted a gender mainstreaming strategy (Guide for Proposers, 2004).

1.1 Gender in Research

There are two areas where gender should be handled within research (Toolkit, 2009):

- Equal opportunities
- Gender in the research content

1.1.1 EQUAL OPPORTUNITIES

“Equal opportunities” is about women’s participation in research. Measures should be taken to involve women more in research. Women are under-represented at all levels of research but also in the Commission’s FP6 bodies (evaluators, advisory groups, programme committees). Statistics (Monitoring Progress towards Gender Equality, 2009) show that 10 % of Scientific Coordinators in funded NMP projects are women and that 11 % of the Scientists in Charge (at each partner organisation) are women.

1.1.2 GENDER IN THE RESEARCH CONTENT

Gender in the research content can be divided into two sub groups:

- addressing women’s needs as much as men’s needs
- research on the gender question itself

To integrate gender in the research content is about examining whether biological and socio-cultural differences have implications on the research. Since people are often the end user of research results, the process of obtaining the results should respect the gender differences.

Research on the gender question itself is not relevant in the context of InPro.

1.2 Gender in InPro

As a NMP project, gender is not a major issue in the research performed within InPro. A few areas where gender was found to have an impact were identified and presented in the Description of Work (Annex I, 2009). The InPro gender action plan is presented in Appendix A.

Regarding equal opportunities, InPro has strived to minimise the number of face-to-face meetings. All meetings of the Board, Technical Committee, and Management Team have been held as teleconferences (unless they were held in conjunction with another meeting). Meetings were normally held within “children friendly” office hours (9-15). Measures have been taken throughout the project to ensure the reconciliation of work and private life, for men as well as for women.

2 IMPLEMENTATION

The InPro Description of Work listed gender actions in four areas. This chapter will describe the results of the implementation of the Gender Action Plan, analyse the impact and relevance and make recommendations for further action.

2.1 Building Bring Added Value to Women

2.1.1 RESULTS OF IMPLEMENTATION

InPro is about the early design phase in a construction project. It is important to capture the needs of all end-users – men and women - already during this early stage. In order to improve the end product, to make it functional to all end-users, a multi-dimensional team should be selected. InPro's task 1.2 dealt with how to select and structure a team (see deliverable D9B).

Traditionally the design brief is considered as the collection of the applied performance criteria. Real end-user needs have hardly been considered. InPro's task 2.3 recommended the use of the "system engineering management approach" (see deliverable D14A), where the building is defined as a system and the demands and wishes of the end-users are the starting point. The method implies that all stakeholders are involved in order to define the system requirements. A representative of the end-user is one of the most important members of the team. This representative must be well acquainted with the different needs and priorities of men and women as these are known to differ.

2.1.2 ANALYSIS OF IMPACT

If the proposed methods of tasks 1.2 (selection of teams) and 2.3 (importance of end-user needs) are implemented in the early design phase of a construction project; the probability for highly functional buildings for both men and women is increased. This can be used as a competitiveness advantage for organisations adapting these methods.

Working with Building Information Models (BIM) simplifies the management of alternatives and the performance of simulations and re-configurations, which adds opportunities to consider new aspects during building design, such as different design alternatives based on gender differences.

2.1.3 RECOMMENDATIONS FOR FURTHER ACTION

The construction industry needs to continue on the road that InPro has pointed out: The end-user (both men and women) must be involved in the definition of requirements. It is also important to have both men and women on the construction project teams.

When it becomes known that the construction industry listens to the needs of women, it will as a consequence become more interesting for women to work in the sector. This will improve the functionality of buildings even further and a positive spiral has been created.

2.2 Career Opportunities for Women in the Construction Sector

2.2.1 RESULTS OF IMPLEMENTATION

In InPro (task 2.2, see deliverable D16B) a framework for collaboration in the early design process has been developed. One of the important key issues in the framework is to create functional working groups that represent different competencies and backgrounds, i.e. gender among others things.

InPro promotes model-based design work and an Open Information Environment (including the Open Information Platform). Working with Building Information Models (BIM) improves the possibilities for visualisation which reduces the technical barriers and needs for abstract thinking and spatial imagination (these two sometimes being attributed as less prominent for women). Furthermore, the possibilities for visualisation also allow the identification of difficult or heavy tasks in advance thus making more assembly-friendly solutions possible. This also decreases the obstacle for women entering construction as it is now sometimes considered too heavy for women.

2.2.2 ANALYSIS OF IMPACT

As the InPro method stresses the importance of creating functional working groups, there will be a greater need for women in higher positions. This should improve the career opportunities for women.

Model-based working in connection with modern communication methods (web conferences, model servers) gives more flexibility regarding working time and location. This makes it easier for both men and women to combine their personal and professional life.

2.2.3 RECOMMENDATIONS FOR FURTHER ACTION

All organisations in the construction sector need to continue to work for a gender balanced workforce on all levels. A start is to get more women interested in a higher education in construction related subjects.

2.3 Women in High Education in Construction

2.3.1 RESULTS OF IMPLEMENTATION

The academic partners of InPro have held a couple of seminars and workshops. They have also participated in different conferences worldwide. During these activities the need to increase the gender equality (according to the InPro methods and processes) has been stressed.

Training material has been developed within the project where the InPro methods (see above, chapter 2.1.1 and chapter 2.2.1) are described. This material will be used for university courses.

2.3.2 ANALYSIS OF IMPACT

Model-based working implies the development of new roles within the construction team, e.g. model manager, data quality assurance, ecological impact assessment. This will increase women's interest in higher education in the construction sector.

2.3.3 RECOMMENDATIONS FOR FURTHER ACTION

A continued work is needed on all levels to increase the interest of women for higher education in construction.

2.4 Women Scientists in Construction RTD

2.4.1 RESULTS OF IMPLEMENTATION

From the beginning of the project only a few women were involved in the project work. There was only one woman in a project key position (work package leader, management or scientific contact). This was the scientific contact of partner Client Forum.

Throughout the project all partners have been encouraged to involve women researchers in the project and for leading roles. The result of this is rather good: at the end of the project there is one female work package leader (work package 8), two scientific contacts of partners (P3 and Client Forum), six female task leaders (tasks 1.2, 1.4, 2.3, 5.3, 8.1 and 9.2) and two women of four in the project management (as Project Manager and Project Coordinator). There are also quite a few women involved in the research work, both junior as well as highly experienced researchers.

In order to facilitate the reconciliation of work and private life, for men as well as for women, most project meetings (such as Technical Committee, Board and Management Team) have been held as phone conferences.

2.4.2 ANALYSIS OF IMPACT

The Gender Action Plan has had a good influence in regards of female participation in the research work in InPro. At the end, there has been a total of around 25 % female participation. For some partners the female participation was 50 % or even more (NCC, Granelund, Luleå, P3 and Dortmund)!

Since recruitment of researchers cannot only be done based on their gender, it is not possible to reach a perfect equilibrium. The female participation reflects the status in the industry.

The rather balanced gender situation in the project has created a good and friendly atmosphere. It has contributed to the creativity of the task groups.

2.4.3 RECOMMENDATIONS FOR FURTHER ACTION

It is important to continue to strive for a balanced male and female participation in research projects. But as long as the supply of women in the industry is not higher, it is difficult to get a better result than InPro has done in this area. The actions need to be taken at an earlier level: attract women to the higher level of education in the construction sector.

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Annex I, InPro Description of Work, revision 2009-12-08

InPro report Deliverable D9B (2009), task 1.2 'Business Concepts'

InPro report Deliverable D14A (2009), task 2.3 'Capturing Stakeholder Values'

InPro report Deliverable D16B (2009), task 2.2 'Collaboration Processes'

Appendix A – GENDER ACTION PLAN

The Gender Action Plan for InPro is written in the Description of Work (annex I to the contract). It includes the following actions:

1. Buildings bringing added value to women

Society includes at least 50% women. However, their values and functional requirements are not sufficiently reflected in today's building designs.

Action plan: In InPro, some tasks are specifically intended to capture the needs and added values of the users. By conducting studies that focuses on the different values, also between gender, the result naturally includes benefits that promote a more nuanced view of the sector and the percentage of women employed by the construction sector is believed to increase. Many of today's barriers can be explained by a lack of understanding different needs and different ways of expressing views, values and opinions.

WP action/assessment criteria: WP2.4, 2.5 and WP1 will deliver functional requirements and models based on user added values.

2. Career opportunities for women in the construction sector

Women are grossly under-represented in construction (in fact 96-99% of the workforce is male).

Action plan: By creating a collaboration process that welcomes teams with differentiated backgrounds, expertise, gender and age, more women will find stimulating job opportunities in the sector and a significant source of human capital and knowledge will be opened.

The creation of new knowledge-based and service-centric working methods will especially increase the career opportunities of women in the sector.

WP action/assessment criteria: Good examples in the construction sector and other related areas are highlighted, WP2.2. Tests where the teams have been especially designed to include participants with different background, gender and age are carried out, WP8.

3. Women in high education in construction

Women are under-represented at the university programmes for construction (in fact less than 30% of the students are women).

Action plan: Activities are planned to include seminars and workshops to university students and focusing on not only gender aspects but also age differences etc. The students, both men and women, have raised awareness about the need to increase gender equality in the field.

WP action/assessment criteria: seminars are activities in WP8 carried out by our university partners.

4. Women scientists in construction RTD

The lack of women in the construction sector is also reflected by the lack of women scientists involved in construction RTD.

Action plan: During the proposal stage we have actively tried to involve women scientists in InPro. While a number of women are involved in tasks throughout the project, no woman holds today a project key-position (WP-leader, management role, etc). This unfortunately reflects the current situation for construction RTD. To change this situation, all partners will be strongly encouraged to involve women researchers in the InPro project in general and in leading roles in specific.

WP action/assessment criteria: As part of WP10, the project coordinator will communicate with each partner organisation to involve women scientists in InPro activities.