

UNIVERSITY CHAIR ON INNOVATION TO PROMOTE A CLOSER COOPERATION BETWEEN ACADEMIA AND INDUSTRY AND SUPPORT LOCAL DEVELOPMENT IN THE MEDA REGION

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Abstract

The globalization and the interdependency principles are more and more underlining the increasing need to comply with economic, social and environmental issues. In this frame of action Innovation and Innovation Management become essential instruments and methodologies to be able to manage the changes that the social society and its productive sector is due to face in order to find the right balance between competitiveness, trade demands, social equity and sustainable development. Following an Innovation Systems approach to analyzing the effectiveness of introducing innovations, one can see that a specific set of competences are to be developed and taught within countries. In this context, there is a clear role that needs to be played by the local universities and by an international network of higher education institutions.

The Innovation Policy Trends Report for the MED-Zone Countries for 2006 (IPTR, 2006) covers the eight countries of Algeria, Egypt, Jordan, Lebanon, Morocco, the Palestinian Authority, Syria and Tunisia. This project is targeting specific problems and obstacles facing innovation and the university-industry relation in the MEDA region. The preliminary analyses carried on by the MEDA partners of this consortium (SEKEM and Cairo, Hassan II, Aleppo, S. Joseph and Sfax Universities) identified the problems to be targeted in this project and related to the gap between industry and universities and the general low attitude of both toward using innovation to create values. The project proposal takes its origin from an initiative started in 2006 and developed by three European Universities (Delft University of Technology, Graz University of Technology, and the Politecnico di Milano) aiming at establishing "Global Network of University Chairs on Innovation". The EU higher education policy towards the MEDA countries is to strengthen the role of higher education institutions in society at large; to address the "knowledge triangle" of education, research and innovation at university level; and to encourage links between higher education institutions and the labour market, including the promotion of entrepreneurship and the creation or support of business start-ups. The overall objective of this project is bridging the gap between the innovation needs of industry and the supply of universities, in terms of human resources and technologies by establishing a "University Chair on Innovation". This project has 5 specific objectives: establishing a university Chair on Innovation in the MEDA Region, developing Technology Transfer Policy and Training the Chair Operators, initiating a re-skilling program on Innovation, EU MEDA Twinning MSc Thesis Program, developing an EU-MEDA Virtual Environment and Strategy for University-Industry Cooperation in Innovation. Essential element of the project is also the management and quality assurance unit which will take care of both the internal and the external quality control.

Keywords

University cooperation, capacity building in engineering, innovation attitude, university and industry partnership.

1. DRIVING VISION

The globalization and the interdependency principles are more and more underlining the increasing need to comply with economic, social and environmental issues. In this frame of action Innovation and Innovation Management [1-4] become essential instruments and methodologies to be able to manage the changes that the society and its productive sector is due to face in order to find the right balance among competitiveness, trade demands, social equity and sustainable development. Following an Innovation Systems approach [5] to analyzing the effectiveness of introducing innovations, one can see that a specific set of competences are to be developed and taught within countries. In this context, there is a clear role that needs to be played by the local universities and by an international network of higher education institutions.

The Innovation Policy Trends Report for the MED-Zone Countries for 2006 [6] covers the eight countries of Algeria, Egypt, Jordan, Lebanon, Morocco, the Palestinian Authority, Syria and Tunisia (5 of them are involved in this project). In 1960 the total labour force of the 8 Med-Zone partners was just under 20 million people. By 2000 this had grown to almost 58 millions. Based on data published by the World Bank the population is expected to exceed 79 millions by 2010 and 98 millions by 2020. These projections indicate that in the decade through 2010 a total of 21 millions new workplaces must be created in the MEDA region, and further 19 millions in the period 2010-2020. The MED-Zone partners provide much more than a pool of cheap labour to perform low-tech tasks. They also provide an annual pool of approximately 100,000 high quality engineers and other graduates that are available for work.

The policy of the MEDA countries therefore tends to emphasise the role of education, the need of creating a workforce that is comfortable with technology and capable of knowledge work. The long-term goal of the governments is to create an innovative entrepreneurial society and recognizes the need for change at all levels in the education system. The biggest innovation problems in the MEDA countries are the quality of the relationship between the private and the public sector, mainly the poor linkage between industry and academia, the poor matching between available skills and those needed by industry, as well as the lack of capability on the part of enterprises to recruit, manage and develop human resources in a modern, systematic way. Industry in general is unable to articulate its needs. MEDA universities in their current situation are not able to break this log-jam and provide the industry with graduates who have problem-solving skills.

2. PARTNERSHIPS

Graz University of Technology (TU Graz), the Politecnico di Milano (POLIMI) and Delft University of Technology (TU Delft), are the three EU universities initiating the idea of establishing University Chairs on Innovation. They are also leading universities in the innovation with a very strong linkage to the industry. The United Nations Industrial Development Organization (UNIDO) is fully supporting the establishment of the Chairs and ensuring the sustainability of the idea [7].

Specific criteria have been decided to select the MEDA partners; a) universities showed interest to implement the objectives of the project; b) universities that can establish the Chair with the lowest possible administrative complexity and risk; c) geographical distribution of the partners within the MEDA region, d) big universities that can introduce changes in their countries; e) one university to represent the private universities as a model spreading very fast in the MEDA region; f) university from a country that has no clear innovation policy; g) a university from a country progressing well in implementing its innovation policy (for disseminating its best practices). Finally, it was important for a such big consortium to involve an organisation with two arms (Education/research and industrial experience). It was essential for the sustainability and political support of this project to have the Industrial Modernisation Centre in Egypt.

The consortium considers the involvement of Dr Sewilam in this project as a key success for its implementation because of: a) his role of key player in promoting this initiative in the MEDA region; b) his great experience in the MEDA region especially with the industry and universities; c) his enormous experience with the TEMPUS program mainly in the MEDA region; d) his experience in developing TOT programs in different disciplines; e) his skills in bridging the gaps between the European and

MEDA cultures which proved to be a key success in implementing such projects with big consortiums; f) language skills (Arabic, English, Germany); and g) he is the only expert in the project with water and environmental engineering experience which is vital for the MEDA region and it should be considered in the mainframe of implementing this project.

3. RELEVANCE OF THE PROJECT

The project is strongly linked to the countries' and universities' specific needs that may be different from nation to nation but presents some remarkable common elements.

3.1 General needs and problems addressed by the action

This project is targeting specific problems and obstacles facing innovation and the university-industry relation in the MEDA region. The preliminary analyses that have been carried on by the MEDA partners of this consortium (SEKEM and Cairo, Hassan II, Aleppo, S. Joseph and Sfax Universities) identified the problems to be targeted in this project as:

1. MEDA industry lags behind in terms of its ability to exploitation of knowledge and the use of R&D and Innovation to create value.
2. Research conducted by universities is generally of little interest to industry or relevance to the economy.
3. Graduates lack the problem-solving skills applicable to real life situations.
4. The needs of industry are real and industry is generally aware of its problems. However, few in industries, industry associations or research in a relevant domain are currently able to translate these problems into needs and requirements for R&D or innovation.
5. There is an almost total lack of communication between universities and industry. The process is not managed by the universities and when it happens, it is usually based on personal contacts of the company and someone based at the university.
6. Lack of awareness among university researchers of the importance of devoting their research to solve local industrial problems.
7. Lack of public awareness of the importance of university-industry link in particular and innovation in general.
8. Lack of communication and exchanging information not only between the MEDA universities but also between MEDA and EU universities. This prevents the exchange of experiences and making benefit of the best practices.

The project proposal takes its origin from an initiative started in 2006 and developed by the 3 European Universities already mentioned aiming at establishing "Global Network of University Chairs on Innovation". The United Nations Industrial Development Organization UNIDO (associated partner in this project) during 2007 agreed to provide technical support to this initiative. In the framework of this initiative, UNIDO financially and technically supported a workshop that has been organised in Vienna (2007). This workshop allowed representatives from the MEDA universities to discuss with the three EU universities the main R&D and innovation problems. This workshop concluded that the MEDA Universities have several problems that should be addressed to qualify them to benefit from such initiatives [5]. The MEDA universities have no mechanism to work with the industry, no technology transfer offices, no Technology Transfer Policy (TTP) and no skilled staff to translate the industry need to R&D subjects. The conclusion was to apply for a TEMPUS project to establish "University Chairs on Innovation" and in turn cover the listed 8 problems.

3.2 Target countries and specific needs

In Egypt, the two main innovation and R&D problems are; a) overall poor match between the educational/ research sector and needs of industry and society; b) general mistrust of public administration by the private sector (ETCI, 2006). Egypt has developed an innovation policy implemented via measures to stimulate university-industry links, venture capital, business incubators, industrial modernisation, SME development and entrepreneurship. The Industrial Modernisation Center (IMC) is considered the most significant body implementing this policy in Egypt (IMC is a partner in this consortium). SEKEM development foundation (partner in the project) is also playing a significant role in the Egyptian society in terms of R&D, education and innovation. Cairo University CU (250,000 students, partner in the consortium) has been constantly looked at as a main leader of the

higher education sector in the Middle East and North Africa region. CU itself is suffering from the poor linkage with the industry for the same mentioned reasons.

Morocco has a clear policy for innovation. This policy is a result of initiatives taken by the Ministry for Industry to develop a dialogue on innovation related issues with the Ministry responsible for Higher Education and Scientific Research, as well as with the CNRST – National Council for Research in Science and Technology, OMPIC – the national intellectual property organisation and R+D Maroc - the Moroccan R+D Association. CNRST has clearly aligned its strategy with the goal of creating an environment to support innovation. It has implemented a program of radical change intended to provide industry with access to university facilities, know-how and information.

In Syria, as mentioned in the same EU report, the public research system including universities is under-resourced with very weak links to industry. For instance, Aleppo University (partner in this consortium) which is the second largest university in Syria has a very variable relation with the industry depending on different faculties, but it remains in general in an unacceptable low level with respect to the expectations of such a big university. Syria has also developed an innovation policy. This concerns all ministries but there is no coordination structure and no system for policy evaluation.

In Lebanon, the STIP or Science Technology and Innovation Plan (April 2006) specified the innovation problem in the need to strengthen the research system and better align its activities with that of the economy. The STIP plan aims also at strengthening partnerships among universities, NCSR and institutes; and between these organizations on one hand and private enterprise, on the other. It also focuses on how the higher educational system can adjust to the needs of an innovation driven economy. Saint Joseph University (partner in this consortium) which is one of the oldest private universities in Lebanon has no clear mechanism that links the education and research activities to the industry.

In Tunisia, the situation is better than in other MEDA countries. Industry-academia links exist but must be developed both in kind and in intensity. Industry has started to express needs in terms of the socio-technical skill. The initiatives of pioneering academics in this regard need stronger institutional support. This is because the government is establishing the Sfax Technology Park (STP). University of Sfax (partner in this consortium) as a partner in STP should find a way to improve its linkage with the industry.

3.3 Target group

The project is designed to meet the needs of the following groups:

- Academic: the project will allow the professors and university researchers to work with the local and European industry. This will allow them to get funds for their research and bring their innovative research into real applications. It will provide them with the re-skilling training program. The project provides also the students to carry out their MSc thesis together with European students on innovative research subjects together with local and European enterprises.
- Industries need to get an access to the innovative research and new techniques. They also need to get the best quality of university graduates. The project will give them opportunity to access the university facilities (e.g. labs). They will be also invited as lecturers for the re-skilling program and in turn get to know the best graduates.
- Enterprises know their problems but they need professionals who can translate them to R&D problems. The University Chair will offer a clear mechanism to identify the R&D subjects and bring the industry and innovative researchers in collaboration.

4. DESCRIPTION OF THE ACTION

4.1 Objectives of the Action

The EU higher education policy towards African and in specific MEDA countries is to strengthen the role of higher education institutions in society at large [8]; to address the "knowledge triangle" of education, research and innovation at university level; and to encourage links between higher education institutions and the labour market, including the promotion of entrepreneurship and the creation or support of business start-ups.

The overall objective of this project is bridging the gap between the innovation needs of industry and the supply of universities, in terms of human resources and technologies by establishing a "University Chair on Innovation". Important to mention, that the overall objective of this multi-country project is in line with the EU programme-wide priorities (Higher Education and Society) and it matches also the two

main national priorities identified by the involved MEDA countries (Development of partnerships with enterprises and knowledge triangle: education-innovation-research).

In 1992; The UNESCO launched the initiative of establishing UNESCO Chairs for covering different research and education aspects and strengthening international cooperation in higher education [9]. The programme has rapidly grown into a worldwide inter-university cooperation network operating in all of UNESCO fields of competence and promoting higher education [10].

Starting in 1992 with some 17 Chairs, today 634 UNESCO Chairs are established within the Programme, involving over 760 institutions in 125 countries and covering 70 disciplines. The Chairs are enormously contributing in covering many of the educational and research issues as well as international cooperation.

This initiative of establishing Innovation Chairs should benefit from the UNESCO experience but covering a completely different significant weakness area. This project has 5 specific objectives that will be achieved through different activities as it will be described below.

The pedagogical methodology, contents of the training programme, involvement of academics, students and stakeholders as well as the quality assurance process can be described as follows:

4.2 Results, Outputs and Measurement criteria

Results 1: Establishing a University Chair on Innovation in the MEDA Region

The general role of this Chair is to reduce the gap between the available innovation knowledge of universities and the need for application in industry within the MEDA region. The Chair should be a department/office integrated in the mainframe of the structure of the MEDA universities. During the project lifetime the Chair will be carrying out academic and administrative activities (no need for approval from the ministries). However, carrying out multidisciplinary R&D activities is a post objective. The Chair should have the following tasks:

- to help enterprises translating their needs to R&D subjects in the field of industrial innovation.
- to encourage and support the enterprises to pursue innovation in collaboration with university thereby availing themselves of existing facilities and expertise.
- to promote university departments to carry out commercially relevant innovation projects with industrial enterprises.
- to disseminate new and useful knowledge resulting from University research, license technology to industry in order to promote the development of inventions towards practical applications,
- to employ a range of activities such as training of faculty, staff consultancy, seminars and specialist training courses, facilitating R&D activities such as innovative products, processes and systems.
- to form different cooperation models with the industry such as closer and longer-term strategic alliances for mutual benefit.

The EE Aachen will be leading this task group.

Results 2: Developing Technology Transfer Policy and Training the Chair Operators

The importance of improving the effectiveness of knowledge transfer cannot be over-emphasised; it is one of the key drivers to help achieve the economic, social and environmental ambitions outlined in the Lisbon Strategy for Growth and Jobs in Europe but also addressed worldwide including MEDA countries. This project will consider the issue of closer collaboration between the practitioners of the knowledge-triangle from 4 perspectives:

- Training and staff exchange for creating a Technology Transfer Profession (TTP) with the identification of skills and expertise essential to be an effective TT practitioner will be taken into account. Moreover the policy will take into account
- model of technology transfer (TT): review of existing technology transfer experiences for good and bad practices, development of a new model of a University Chair on Innovation (Technology Transfer Office TTO) as well as provide a benchmark to compare the performance of the new developed model, benchmark on key elements of different policies, procedures and tools carried on within the Chair.
- Intellectual Property Strategy (IP): development of standard procedures and tools for protecting inventions through patents, identification of key elements of a framework agreement for managing IP with industries (cooperative research), identification of key elements of exploitation agreements-contracts (licensing, development agreements, letter of intent, material transfer agreements...), case studies and exercise on the surveillance of the IP state of the art, patent clustering, patent citation trees, exploitation activities: strategies, procedures and tools on the licensing process

- Spin-off creation and incubation: strategies, policies (i.e. conflict of interest), procedures and tools for promoting entrepreneurship within the MEDA university and research centres, good practices on business plan support and evaluation

POLIMI will be responsible of this task and will involve a selected team from the MEDA partners.

Results 3: Initiating a re-skilling program on Innovation.

This program will be one of the programs to be offered by the University Chairs after the project lifetime. The target groups of this training program (after the project) are the researchers, and graduate students of the MEDA universities. The training program qualifies the trainees to:

- identify unarticulated industry innovation needs and get to the heart of the problem;
- apply a structured roadmap for innovation to solve industry problems;
- take research ideas and turn them into product, process and system solutions, then demonstrate success with prototyping and piloting.

This (TOT) program will also prepare the graduates for a labour market and to start their own business (business start-ups). The total duration of this program is 6 weeks to be carried out during the summer holidays in the MEDA countries. The lecturers will be academics from the MEDA universities and visiting lecturers from the industry. It includes mainly courses on innovation, promotion of entrepreneurship and the creation of business start-ups. During the project lifetime, selected academic and research members from the MEDA universities will be trained (TOT). The trainees will be the trainers who can offer this program regularly after the project. The program is composed of three modules that have been identified based on a preliminary analysis of the MEDA innovation and R&D problems (the courses might be adapted during the project implementation based on the results of the real-world needs analysis, activity 1.1).

The modules, courses can be listed as follows:

Module I (Innovation & Innovation Management/ Two Weeks in Delft):

- C.I.a Theoretical and substantive curricula on Innovation and Innovation Management
- C.I.b Capita Selecta: practical experience in Innovation
- C.I.c Managing innovation in Industry
- C.I.d Product, Process and System Innovation

Module II (Entrepreneurship / two weeks in Delft)

- C.II.a Social entrepreneurship
- C.II.b sustainable entrepreneurship
- C.II.c science-based business venturing
- C.II.d entrepreneurial skills and HRM
- C.II.e legal requirements and IPR

Module III (simulation sessions and project management / two weeks in Graz)

- C.III.a Simulation A
- C.III.b Simulation B
- C.III.c Project Management A
- C.III.d Project Management B

For all topics a project simulation planning and management will be carried out. TU Delft will lead the Task Group (TG3) responsible for carrying out this work package.

Results 4: EU MEDA Twinning MSc Thesis Program

This is another program to be offered by the University Chairs after the project. The main aim is not to develop a complete MSc program but to initiate a mechanism that allows Mediterranean and European MSc students from different disciplines to carry out their thesis in innovative subjects together with EU and MEDA industrial institutions. This program will be open for all the MSc students from all involved universities, mainly for engineering and innovation subjects. The program should allow;

- translating the industrial problems to R&D subjects;
- continuous transfer of the European university-industry cooperation experiences in innovation to the MEDA universities;
- bringing industries from MEDA and EU together on common R&D objectives;
- building a trust between universities and industry in the MEDA region; and
- giving the students the opportunity to expose their qualifications to the labour market.

TU Graz will lead the Task Group.

Results 5: Developing an EU-MEDA Virtual Environment and Strategy for University-Industry Cooperation in Innovation

To ensure the internal and external dissemination, communication between universities as well as sustainability of the Innovation Chair initiative, a virtual environment will be developed. This virtual environment is considered the foundation stone of establishing an EU MEDA network of University Chairs on Innovation (project post objective). The virtual environment enables the Chairs to: facilitate personal relationships and the exchange of ideas between the MEDA Chairs and EU technology transfer offices through the using of specific tools encouraging distance communication and cooperation (synchronous and asynchronous); share in the partnership the most significant project experiences through the construction of a knowledge sharing system; contribute to the development of a common strategy definition.

- Development: This will be the starting point to vehicle the innovation during and after the lifetime of the project. The virtual environment will be designed and developed by Politecnico di Milano during the first year of the project with the aim to collect all the experiences useful for the EU MEDA strategy design and implementation. In order to spur the creation of relationship, different types of collaborative online activities will be developed using the virtual environment; among them we could mention: Creation of "live events" archive: "live events" consist in live shot, webcasting and storing in the network support platform, scientific events organized by different EU and MEDA universities (e.g., lectures and seminars held at the Universities); magisterial lessons on specific subjects: the lessons, held by experts of each specific topic, are transmitted via web through web conference systems, recorded and stored within the support platform; organisation of online workshops, seminars, online training short workshops on specific subjects with synchronous (e.g. web conference, Skype and Cmap) and asynchronous tools (Wikipedia, Blog, etc..), development of multimedia contents of different types, development of experimentation for research activities and dissemination.
- Training: POLIMI will carry out a training program for the Chair operators, professors and researchers from the MEDA universities related to "Technological/methodological ecooperation". The training contains: using of all the technologies proposed and self-management of the ecooperation activities, set of blended courses (through face-to-face and online meetings) to train a selected group of trainees (professors, industry representatives, students, graduates, government representatives, etc), developing online ecooperation initiatives. The environment and the new skills will help all the stakeholders to successfully carry out the MSc twinning program in addition to facilitating the development of a proper framework for supporting and sustaining in the long term the cooperation between local universities and industries.
- The virtual environment will help the consortium to disseminate the initiative and by the end of the project to make the best out of the gained experiences and develop a strategy for other EU and MEDA universities to play an important role in bridging the gap of the university-industry cooperation. The strategy should include a clear mandate of the University Chair describing their mission and including for example also:
- Publicity: to stress the significance of University-Industry Cooperation in the MEDA region. This can be achieved through a variety of media (television, broadcasting, newspaper, magazine, conference and internet) and courses focusing on the importance of establishing a complete system of talents training and scientific & technological innovation and the need of building up an harmonious society.
- Legislation and policy development: to promote the MEDA governments, universities and industrial institutions to draw up corresponding regulations and policies to encourage and assure the healthy development of University-Industry Cooperation.

The task group 5 will be responsible for this work package. POLIMI will be the leader of the TG5 which includes also representatives of all the MEDA partners.

5. METHODOLOGY

5.1 Management of the project

The activities of the project are allocated to all of the consortium members as mentioned in the activity tables. A short summary of the role and responsibilities of each partner: all of the consortium members including the individual expert will participate in the quality control, sustainability and dissemination of the project; the TU Graz (grant applicant) is responsible for the overall management of the project

including fund allocation and financial administration in addition to the implementation of its technical activities (TOT program and twinning MSc program); POLIMI is responsible mainly for the local management, developing the TTP, and virtual environment; TU Delft is responsible for the TOT and plays an important role in the establishment of the innovation Chairs; UNIDO and IMC provide technical and strategic support in almost all of the activities and play an important role in the quality control; UNIDO headquarter and regional office will be involved and provide the high level political support; the individual experts will be involved in the establishment of the Innovation Chairs and work very closely to support the applicant in the management and coordination; SEKEM with its huge organisational structure (education, R&D and business) will be the bridge between industry and university; all of the MEDA universities will be responsible for the establishment of the Chairs with support from other partners. They will be involved in most of the other activities by different means. In order to effectively manage this big consortium, the project will start by organizing a kick-off meeting to allocate the tasks to the partners as listed in the proposal and identify the 6 task groups (TG1, 2...6) in addition to the management, quality control and sustainability task groups (TGM, TGQ and TGS). In this meeting, the communication tools will be presented by the individual expert (communication server, emails, chatting programs, phone calls, video conference etc.). The management task group (TGM) and the management procedure will be presented in this meeting. To ensure smooth and democratic management process, the TGM will be composed of the grant holder, individual expert and a representative of each partner. The decisions will be taken basing on voting system. The representatives of the institutions and leaders of the task groups prepare self-assessment reports every 6 months and send them to the applicant. An annual management meeting will be organised for the TGM. In these meetings, the self-assessment reports will be discussed and actions will be decided in a democratic environment (voting). In these meetings, the quality control group (TGQ) and the sustainability group (TGS) present the result of their achievements and obstacles. The TGM will decide the remediation actions (when necessary). Urgent meetings will be organized using video conference for quick reactions. TGM will be responsible for preparing the project progress and final reports (IR1, IR2, and IR3).

5.2 Quality control and monitoring

Five Task Groups will be responsible for the achievement of the 5 project objectives. The project will be managed by the management Task Group (TGM) which is composed of a representative of each partner institution, project grant holder and external expert. The quality control and monitoring strategy of the project is classified to;

- Internal quality control will be based on applying the methodology known as “Plan-Do-Check-Act” (ISO 9000:2005).

An internal evaluation board (Quality Control Task Group TGQ) will be selected from the consortium members, QC expert from SEKEM and the external expert to implement this methodology. TGQ will monitor and control the activities based on the project time plan as listed under III.4. . Regular quality control of each work package will be carried on (as indicated under package 9). The assessment will be based on the indicated qualitative and quantitative performance indicators. The tools that will be used for the quality control and monitoring are; a) questionnaires, b) interviews, c) self-assessment reports, d) reports of the TGQ, etc) site inspection, and f) evaluation surveys. The evaluation will not be only involve project members but also the opinion of all stakeholders (e.g. industry), targeted groups, students and trainees. The Industrial Modernization Centre in Egypt (IMC) will be involved in this activity to assess whether the project meets the R&D strategies of the MEDA countries. UNIDO agreed to be involved in this activity and provide guidance for the consortium through its local offices in the MEDA region.

- External Quality Control includes Inter-Tempus project coaching and external reviewers.

Inter-Tempus project coaching is decided to be carried out with different MEDA TEMPUS projects. There is an agreement already with the grant holders of these projects to carry out the inter-coaching activities. This will help the consortium to regularly assess the activities and benefit from the other experiences. External reviewers will be invited to evaluate the activity and assess the progress of the project. External industry partners will be invited also to assess the effectiveness of the achieved programs and submit recommendations for the following steps.

In case the internal or external assessment indicates that the quality differs from the one expected or the outcomes will not be achieved on time, TGQ will report immediately to the management task group (TGM). TGQ will react immediately by investigating the reason and implement the necessary actions.

6. SUSTAINABILITY

As indicated in the TEMPUS Handbook on Sustainability, projects which meet the real need of the graduates, universities, industries and labour market are more likely to be sustainable. This project is covering a very serious issue in the MEDA region. The significance and interest of many universities and organisations can be realised from the consortium structure (Universities, International organisation/UNIDO, local industrial organisation/IMC as well as the 6 support letters from different enterprises). This simply shows the interest and need for this initiative. The idea of a university chair is highly appreciated and well received from many other organizations not only in the MEDA region but also worldwide. The involvement and commitment of the United Nations Industrial Development Organization (UNIDO) proofs also the great interest of donors and international organizations to support and spread the idea. The potential financial sources such as World Bank, UN organizations, and industry can ensure to cover the estimated costs.

The practical step for ensuring the sustainability of the project are

1. Quality of project design in meeting academic, professional and/or social needs
2. Involvement of partners: sense of ownership and motivation
3. Effective management and leadership
4. Active participation of the audience (direct target groups)
5. Capacity for securing adequate resources for continuation

7. CONCLUSION

In this project, the idea is originated from the European Universities basing on the worldwide UNESCO experience (UNESCO Chair). The MEDA partners are selected basing on their interest in the idea and matching it to their university and country strategy. In addition, during the preparation workshop of this proposal that has been organized in Vienna and funded by the UNIDO, it was clear that the partner universities are really in need for this initiative. The idea of linking all the established university Chairs through a Global Network for University Innovation Chairs will be a real motivation for all the consortium members to successfully achieve the project objectives to be qualified to join this network. The sense of ownership will be there because the Chair will be a dynamic entity inside the universities that affects all the research and academic departments.

The project target groups are academics, students and industry professionals that will be invited regularly to attend the project events. The aim is to involve them in the project activities, decisions and actions. All the direct target groups will be involved in the pilot implementation of the activities (MSc Thesis, re-skilling program, managing the Chair, etc.). Their feeling of ownership will encourage them to support the project implementation and sustainability. The project co-ordinator will play a very important role of breaking the barriers of languages and cultural diversity in the project which in turn motivates the participation of the direct target group.

After the successful pilot implementation of the re-skilling program and the MSc thesis twinning program, some fees will be received from the industrial organisation who realised the importance of these programs in matching their needs. The project sustainability commission will be formulated from the most skilled persons in fundraising from the consortium members. The Chair on innovation will receive a certain % of the R&D successful cooperation between the MEDA universities and industries. In addition to the commitment of the UNIDO and IMC to ensure the sustainability, their involvement will encourage other donors to support this initiative. A case of success will be built and other opportunities to spread in the African region the idea of University Chair on Innovation will constitute a multiplier effect.

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