



Tempus

EAC  
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Education, Research & Culture  
Executive Agency

DICAMP  
Tunisia

# MASTER PROGRAMME INNOVATION MANAGEMENT

English

UNIVERSITÄT LEIPZIG



HOCHSCHULE  
WEIHENSTEPHAN-TRIESDORF  
UNIVERSITY OF APPLIED SCIENCES



HHL  
LEIPZIG  
GRADUATE SCHOOL  
OF MANAGEMENT



ESSECT



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MOEZ



UNIVERSITY OF  
EXETER

## Introduction by the Project Coordinators

Starting in October 2011 the project DICAMP had creative ideas, visions but also clear objectives for the Tunisian higher education system. An international team of universities from Europe and Tunisia managed to develop and launch a new master programme Innovation Management at three Tunisian universities. Within three years 90 students were enrolled into the programme and in September 2014 class 1 celebrated their graduation.

We hope that this brochure will give you insights on what has happened since October 2011. We would like to present our project DICAMP and our master programme Innovation Management as a case study for other universities in Europe and North-Africa by learning from our experience in introducing a new master programme in their countries. With the partnership between European and Tunisian universities it was possible to build capacity for delivering and further developing the programme in the future.

Hereby we would like to thank the Tempus programme of the European Union for funding and supporting our idea. Also we want to thank all of our partners, students and sponsors for their constant motivation and support in developing the project's vision into a successful programme.

Join in on facebook [www.facebook.com/dicamp.eu](http://www.facebook.com/dicamp.eu) or visit [www.dicamp.eu](http://www.dicamp.eu).

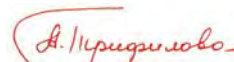
Sincerely,



Prof. Dr. Thorsten Posselt



Prof. Ridha Ben Cheikh



Dr. Anna Trifilova



Tempus



## Preface

### *Why having an Innovation Management Master Programme in Tunisia?*

After the Arab Spring, Tunisia experienced a huge process of transition which is characterized by aspects that go beyond the political dimension. Besides rapid urbanisation, a high population growth and environmental questions especially the pressing need to reform the economic system is the major challenge of Tunisia today. Tunisian companies need to develop and maintain their competitive advantage due to the increasing international competition and fast technological change. The growing external dynamic requires the continuous improvement of products, services and processes as well as the fast adaption of technology to be and stay innovative. As there is a clear link between innovation and economic growth, innovation management is a central discipline of entrepreneurship to boost the economy and to reduce unemployment but this requires qualified graduate students and professionals.

The Tempus funded DICAMP project provides with its cross-universities master programme in Innovation Management a professional and highly competent concept to train and qualify students about the diverse facets of managing innovation. It includes not only the knowledge about strategic, people and project management but also focuses on the need for high technological capability. The new master programme tries to manage the challenge of integrating all the different facets of innovation management

by connecting theoretical concepts with useful practical skills. Students will learn to understand, analyse and improve innovation performance while applying diverse tools and techniques. By transferring know-how from the academic world to industry, Tunisian public and private sector will benefit from the master programme. The students will be able to use their skills and knowledge to question, suggest and discuss new ideas which can be an important source for new products, services and processes.

Being innovative in its design and delivery, the master programme also gives a proposal to modernize study programmes in Tunisia. It is the first prototype of an innovation management master programme in a developing country. Tunisia will benefit from the students who study this programme as they are highly qualified, understand the Tunisian culture and are able to communicate in the local language. I am sure that the master programme Innovation Management provides a chance for Tunisia to support its public sector and companies while creating and sustaining an innovative culture.

Prof. Chiheb Bouden



Prof. Chiheb Bouden

Director General of Higher Education  
in the Ministry of Higher Education, Scientific  
Research and Technology of Information

# DICAMP – Doing an EU Project with 11 Partners

## Project Idea



Technische Universität München



PETER PRIBILLA STIFTUNG

During a conference of the Peter Pribilla Foundation in Tunis in May 2010 the idea of a master programme in innovation management in Tunisia was developed by Prof. Dr. Ralf Reichwald who is a permanent visiting professor as well as professor honoris causa at the University of Tunis, El Manar and by Dr. Nizar Abdelkafi. Growing up in Tunisia and now working as an innovation researcher in the realm of business models at the Fraunhofer MOEZ in Leipzig, Dr. Abdelfkafi knows the cultural, educational and economic needs of his home country. With a new call for the Tempus IV programme in 2011 the possibility of introducing a new master programme in Tunis by establishing a cooperation between European and Tunisian universities was provided.

Due to his Tunisian background and the strong support of Prof. Dr. Ralf Reichwald, Dr. Abdelfkafi was able to find motivated partners in Europe and Tunis who believed in his idea of education modernization and reform through international partnership.

Together with his team and Tunisian colleagues he wrote the proposal for the Tempus call and created a project named DICAMP. **DICAMP** is an acronym and means: **D**evelopment and **I**mplementation of an **A**ccredited **C**ross-Universities **I**nnovation **M**anagement **M**aster **P**rogramme in **T**unisia. The project proposal fulfilled Tempus requirements and was approved with a Tempus grant in September 2011.

Hereby the whole DICAMP team wants to thank especially Prof. Dr. Ralf Reichwald who had the idea for this project, supported the proposal and highly contributed to the success of the project and the master programme with his strong expertise and his experience as well as his positive energy and creative ideas.



## Project Funding

The DICAMP project is funded by the Tempus IV Programme (2007-2013) of the European Union. The Education, Audiovisual and Culture Executive Agency (EACEA) is responsible for the management of the Tempus IV Programme.

Tempus was an education programme of the European Union which focused on the modernisation of higher education in the EU's immediate neighbouring countries. It supported and promoted institutional cooperation by responding successfully to the changing needs of its partner countries in the area of higher education. Since

its start in 1989 the participating countries had increased from 17 to 56, involving countries of Eastern Europe, Central Asia, the Western Balkans and the Mediterranean region.

Like the Lifelong Learning Programme or the Youth in Action Programme also TEMPUS was running out in 2013 and is now replaced by the new Erasmus+ Programme that started in 2014. © European Union, 1995-2014

[http://eacea.ec.europa.eu/tempus/index\\_en.php](http://eacea.ec.europa.eu/tempus/index_en.php)

## Erasmus+

Erasmus+ is the new EU programme that brings together as well as replaces seven existing EU programmes, among it also the Tempus Programme. Erasmus+ provides grants and aims to support actions in the fields of education, training, youth and sport in the period 2014-2020.

The programme gives opportunities to students, trainees, staff and volunteers to spend a period abroad to increase their skills and employability. It supports organisations to work in transnational partnership and to share innovative practices in the fields of education, training and youth.

The seven year programme will have a budget of €14.7 billion. By supporting transnational partnerships among education, training, and youth institutions and organisations the programme aims to foster cooperations in order to tackle the qualification gaps we are facing in Europe. Therefore a modernisation of education, training, and youth work is one of the major programme objectives. © European Union, 1995-2014

[http://eacea.ec.europa.eu/erasmus-plus\\_en](http://eacea.ec.europa.eu/erasmus-plus_en)  
[http://ec.europa.eu/programmes/erasmus-plus/index\\_en.htm](http://ec.europa.eu/programmes/erasmus-plus/index_en.htm)



## Project Content

With the DICAMP project the higher education system in Tunisia gets a cross-universities master programme in innovation management that conveys to the students the skills how to create innovations and how to lead them to success, while fostering entrepreneurial thinking. Therefore the project not only contributes to the modernization of study programmes and curricula at Tunisian universities but also responds to the current requirements of the Tunisian economy.

## Project Objectives

- Developing a cross-universities master programme in innovation management that is adapted to the cultural and economic requirements of Tunisia,
- Implementing the new master programme, while building the required capacities that enable the Tunisian universities to continue the programme beyond the project lifetime,
- Applying to an international and reputable accreditation institute for the certification of the master programme.



DICAMP project kick-off at MOEZ in Leipzig in December 2011

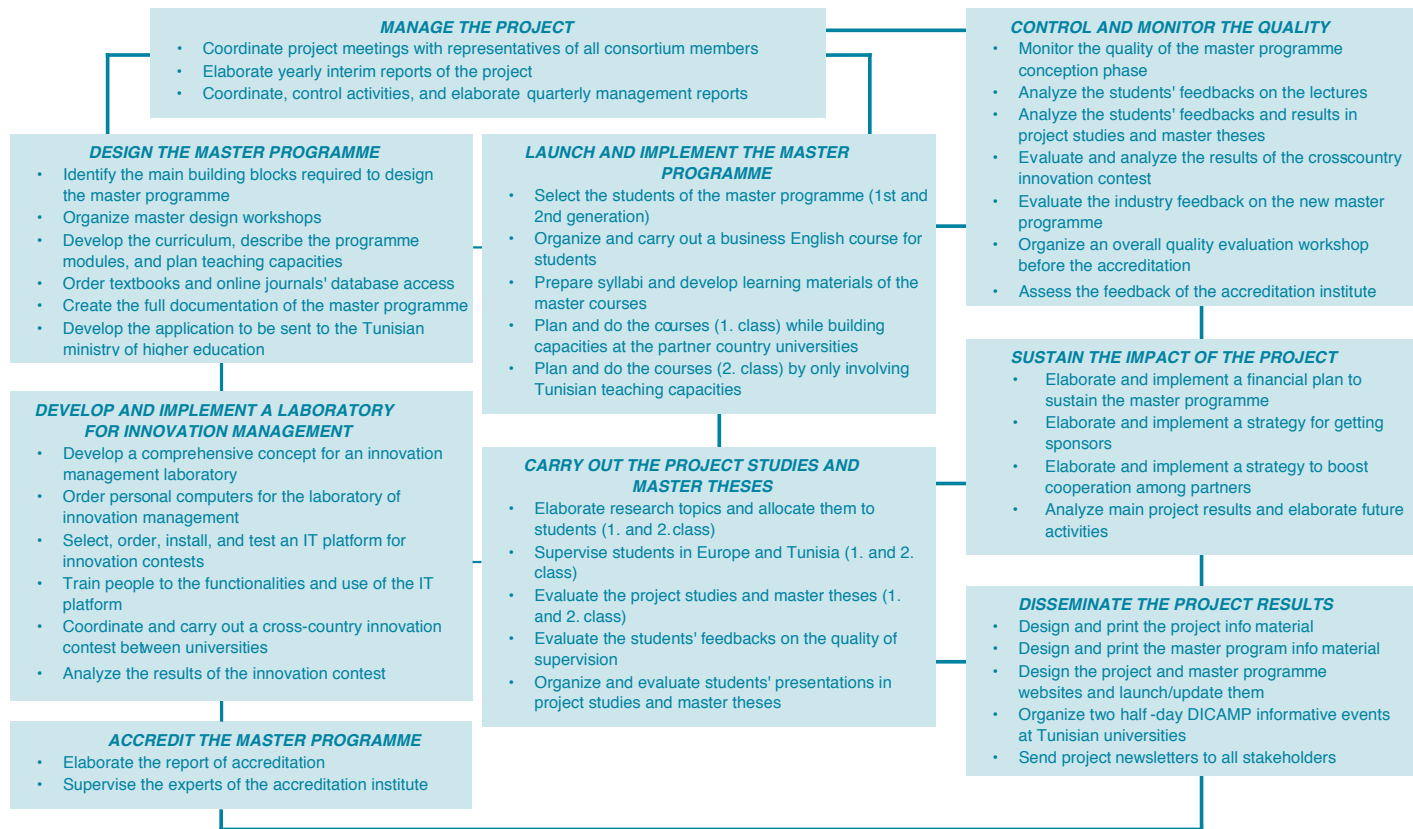




## Project Partners

- University of Leipzig (UL)
- Leipzig Graduate School of Management (HHL),  
Center for Leading Innovation & Cooperation - CLIC
- Fraunhofer Center for Central and Eastern Europe  
(MOEZ)
- Weihenstephan-Triesdorf University of Applied  
Sciences (HSWT)
- The University of Exeter (UNEXE)
- Mines ParisTech (MPT)
- Ecole Nationale d'Ingénieurs de Tunis (ENIT)
- École Supérieure des Sciences Économiques et  
Commerciales de Tunis (ESSEC)
- Institut des Hautes Etudes Commerciales Carthage  
(IHEC)
- Ministry of Education- l'Agence Nationale de  
Promotion de la Recherche Scientifique (ANPRI)
- Centre International des Technologies de  
l'Environnement de Tunis (CITET)

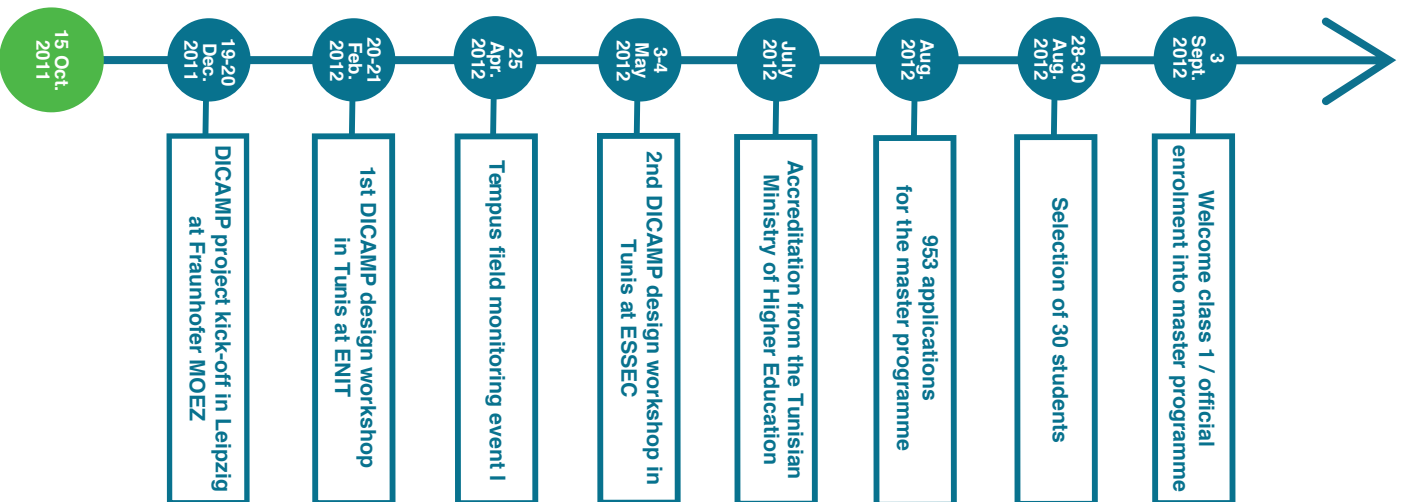




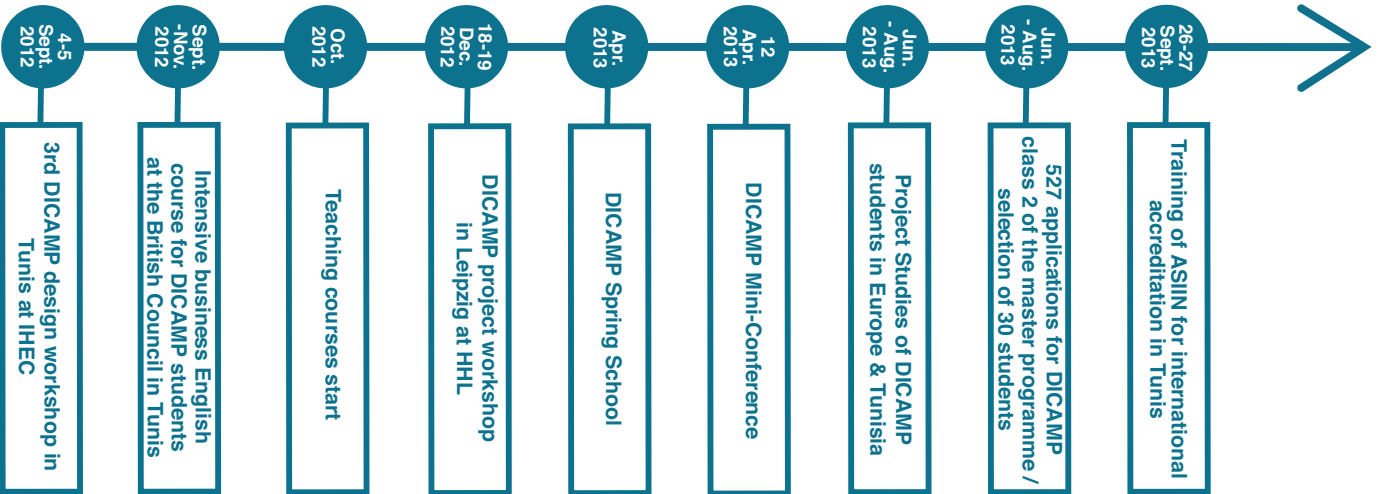
## Work packages of the project

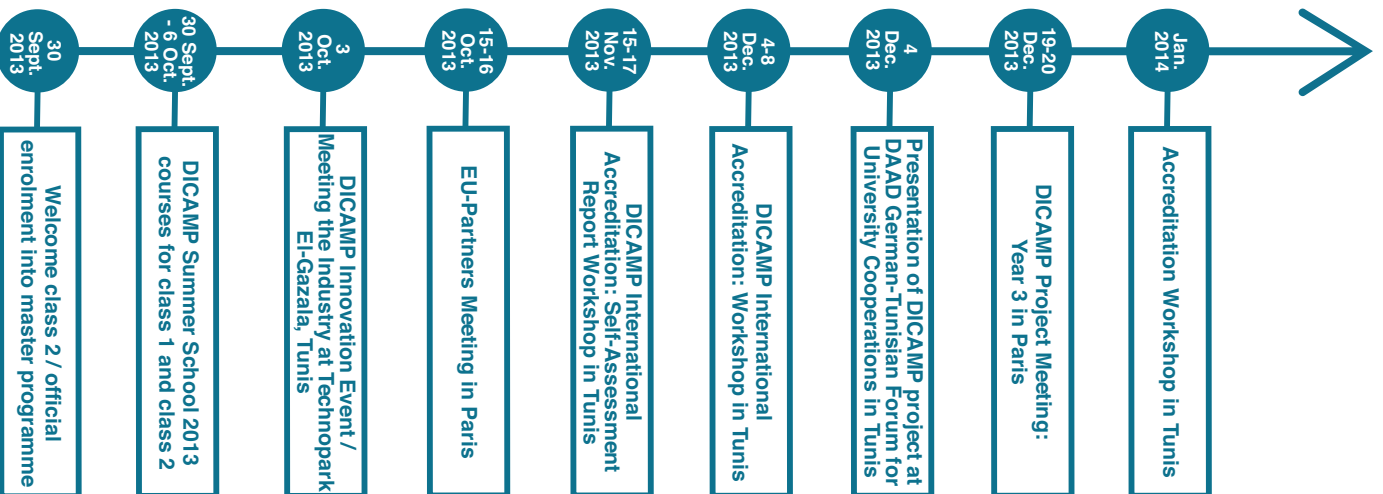


## Project Milestones

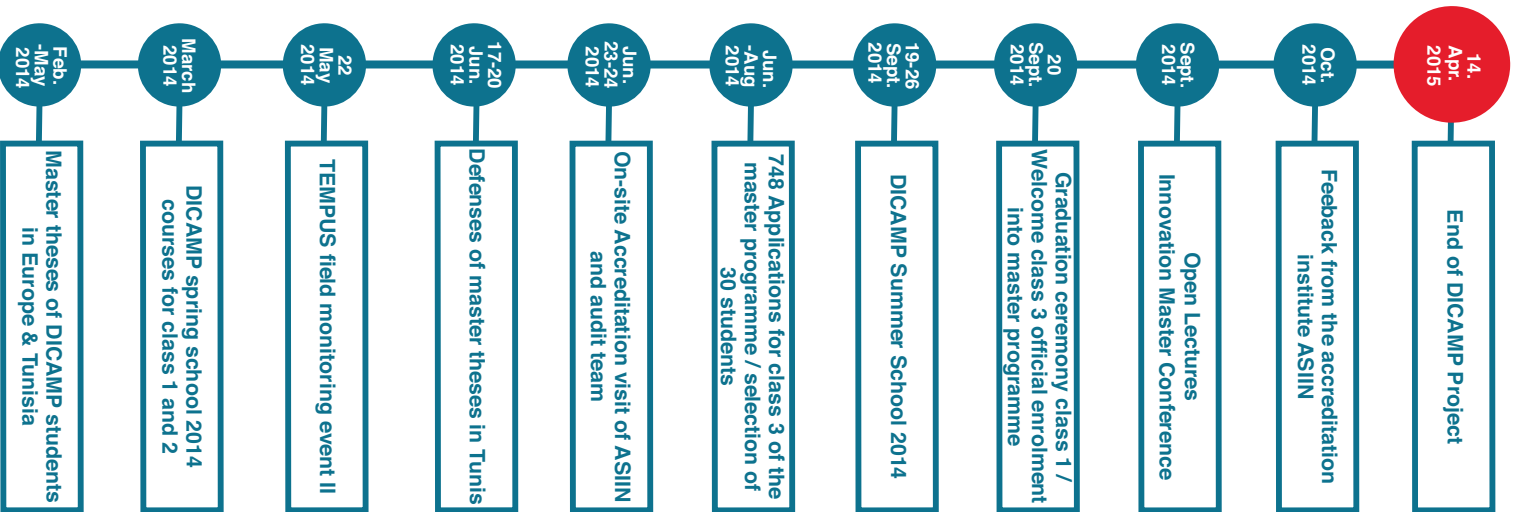


## Project Milestones





## Project Milestones



## Interview with Dr. Thomas Decker (HSWT)



*Dr. Thomas Decker (pol.) is head of the department „Energetic Use“ at the Chair of Marketing and Management of Biogenic Resources of the Weihenstephan-Triesdorf University of Applied Sciences (HSWT) which is one of the project partners within the DICAMP project.*

What were your first thoughts when you heard that you will be working in an EU project with 11 partners developing a master programme in Tunis?

There is one word to describe my thoughts: curiosity. First of all I have never been to Tunisia before and second I was very excited to experience the project work in this country with altogether eleven partners from Europe and Tunisia. The idea of developing a new master programme, teaching at Tunisian universities and working with the students was very attractive to me. I was very happy to be part of something new.

Which objectives did the DICAMP project have for you in 2011, when the project started?

For me there were always two main objectives that we needed to achieve with the project: 1. to develop a master programme with high qualities regarding content and teaching, 2. to ensure the sustainability of the programme after the end of the project in April 2015.

What was your main work package in the project and how did you manage it? Did you experience any challenges within the work package?

I was leading the work package “Carry out project studies and the master theses” and was mainly responsible for the arrangement of topics and the travel organization of students to Europe. The challenge was to bring together the ideas of the students and supervisors as well as to solve travel issues like visa requirements.

Which results does the project have from your perspective?

We created a very good master programme in innovation management with qualified students who are engaged and very supportive regarding project activities and the sustainability of the programme.

What do you think are the major challenges within the whole project?

Working within an EU project with eleven partners for the first time was the biggest challenge as every partner also follows his/her own ideas and ways of working. Putting all this together and

balancing between the Tunisian and European culture was sometimes not easy – but the intercultural exchange was one of the best project results for me personally.

What were the best moments and experiences you gained with the project?

It was amazing welcoming and working with five Tunisian students who did their project studies and master theses at HSWT. Working with them on the topic of the awareness regarding alternative fuels or bio-plastic in Tunisia was very fruitful and a great enrichment for all of us.

Would you develop and implement another master programme in Tunisia?

Yes of course. We all made a great job and the positive feedback from the accreditation institute is the best proof. Also we established good links to the Tunisian industry and companies which are interested in our graduates and the idea of managing innovations. This is very important especially for the sustainability of the programme in the near future.

What are your recommendations for other institutions who want to do a project in the field of higher education outside of Europe?

Be open, curious and flexible!

Thanks to Thomas for answering the questions.

# Innovation Management – A new Master Programme in Tunisia

How do companies that offer products or services build and sustain a competitive advantage – this is the crucial question for every business. In today's world whether in the public or the private sector innovation is a key aspect as organizations need to change what they offer their customers. Besides recognising the need for innovation it is also important to know how to manage it. Since the first part of the 20th century, courses in innovation management are offered. Among one of the first universities was the Massachusetts Institute of Technology (MIT).

Nowadays mainly in Europe and North America several hundreds of diverse courses with different approaches and teaching methods are offered. Especially for a country like Tunisia qualified students who are able to search, select, implement and sustain innovations in diverse economic fields are essential for economic growth and development. The project DICAMP provides an opportunity to qualify students to turn knowledge into commercial and social value through innovation by offering the first Innovation Management master programme in North Africa.

The development of the curriculum and the design of the master programme was influenced by key questions in innovation management that Prof. John Bessant and Prof. Joe Tidd also explain in their book *Managing Innovation: Integrating Technological, Market and Organizational Change*, 2009.



## Key Questions in Innovation Management

In the world of practice – whether in public or private sector – the challenge of innovation is significant. If organizations fail to change what they offer the world – products and services – and the ways they create and deliver those – processes – then they risk losing competitiveness and will lack the ability to grow. But recognizing the need to innovate is not the same as knowing how to do this effectively – there is also a need to understand how to manage innovation. This raises some key questions for any organization:



(© Prof. John Bessant & Dr. Allen Alexander)

- |                  |  |
|------------------|--|
| <b>Search</b>    | <i>How can we find opportunities for innovation?</i> |
| <b>Select</b>    | <i>What are we going to do and why?</i>              |
| <b>Implement</b> | <i>How are we going to make it happen?</i>           |
| <b>Capture</b>   | <i>How are we going to get the benefits from it?</i> |

The designed master programme wants to provide answers to these questions and teach the students how to create innovations successfully by learning skills and qualifications in entrepreneurship.



## Learning Outcomes



- To understand the complex environments within which innovation takes place and examine it.
- To recognize and be able to configure suitable responses to different innovation contexts.
- To mobilize cross-functional knowledge in integrated fashion to create value from ideas during the innovation process.
- To understand the importance of networking and external agencies within the innovation process.
- To identify ways of working with external stakeholders and developing an integrated and open approach to innovation management across such networks.
- To evaluate the concept of routines as core patterns of behaviour which are embedded within the organization and reinforced into processes, procedures, policies, etc. as the key enablers of an innovation process.
- To interpret the concept of dynamic capability and be able to deploy this in revising and reconfiguring innovation management routines in the face of a complex and changing environment.
- To analyse the changing external landscape for innovation and be able to interpret this – for example signals about open or user led innovation – in deploying dynamic capability.

## Job Market Perspectives

The Tunisian labour market is experiencing an increasing demand for graduates in innovation management. At least two studies have emphasized the importance of developing innovation competencies in the region. These surveys have been undertaken by APII (2010) and IACE (2010). These results show that the most critical obstacle to innovation mentioned is the lack of competencies for managing innovation and for building external links to innovation. The studies underline that Tunisian companies experience the lack of resources to innovate and they particularly emphasize the lack of innovation skills in Tunisian companies. It should also be pointed

out that in 2009, the Tunisian government identified the need and took measures to encourage the industry and service sector to adopt and develop innovation management processes and skills in Tunisian companies. The weakness of Tunisian companies in innovation activities, the strong governmental incentives and the lack of curriculum in the area strongly support the demand in the market. To address these needs the project DICAMP developed and introduced a master programme in innovation management at the following three Tunisian universities:

- École Nationale d'Ingénieurs de Tunis (ENIT);
- École Sup. des Sciences Economiques et Commerciales de Tunis (ESSEC);
- Institut des Hautes Etudes Commerciales Carthage (IHEC).





## *Development of the Curriculum*

The development of a cross-universities master programme in innovation management that is adapted to the cultural and economic requirements of Tunisia is one of the main objectives of the DICAMP project. Therefore a curriculum needed to be developed. Within three 2-days interactive design workshops which took place in Tunisia in February, May and September 2012, European and Tunisian partners jointly designed the master programme and its curriculum.

Besides representatives from academia also people from public sector and industry contributed to the development of the programme by sharing their ideas and experiences. After designing the programme and the modules, learning objectives and learning content for each single module were devised. Based on their individual research area and innovation expertise, European and Tunisian teachers formed teams and filled their module with ideas about what and how to teach. Each team was responsible for preparing and

also delivering one or more modules. The project partner Exeter University Business School consolidated all ideas from the different representatives and the diverse contents for all modules into a curriculum.



Design workshop at IHEC in Tunis September 2012

## *Design of the Master Programme*

The designed master programme aims to create a learning pathway for Tunisian students to create innovations successfully by learning skills and qualifications in entrepreneurship. The competencies of innovation management, as a multi-dimensional issue, are transferred within a two years integrative master study programme. The courses are modular in structure, consist of 15 modules and involve project work as well as an integrating dissertation.



- **Year 1:** Basic coverage of 'foundation' elements in innovation management – topics like innovation strategy, project management, new product/service development, entrepreneurship, intellectual property management.

- **Year 2:** Research-led range of courses which explore 'frontier' issues in innovation management – such as 'open innovation', user-led innovation, service innovation, design-driven innovation.



# Modules Year 1

Module	Outline Description
<b>Year 1. Foundations of innovation management</b>	
M 1. Introduction – the content and context for innovation management	<p>Definitions of innovation and entrepreneurship</p> <p>Drivers for innovation – competition, regulation, knowledge creation etc.</p> <p>National systems of innovation</p> <p>Innovation as a core business process</p> <p>A process model for innovation</p> <p>Monitoring, measuring and managing innovation</p> <p>Definitions – how changes in product/process/service, etc. can help move the organization forward.</p> <p>Links to overall corporate strategy</p> <p>Targeting innovation – exploring innovation space</p> <p>Tools for analysis – strategic positioning, resource-based view, capability theory, innovation life cycles, benchmarking, etc.</p> <p>Sources of innovation – knowledge push and demand pull, regulation, competitors.</p> <p>Ways of searching – technical R&amp;D, Market research, futures and forecasting, usefled Innovation, benchmarking, etc.</p> <p>Absorptive capacity and knowledge management – acquiring, assimilating and exploiting external knowledge</p> <p>How to choose which of multiple options for innovation projects are taken forward.</p> <p>Building the business case and criteria for evaluation.</p> <p>Decision support tools – financial methods, decision matrices, scoring systems, financial appraisal methods, portfolio techniques</p> <p>Basics of project management</p> <p>Stage gate models for risk management</p> <p>Organizing project leadership and teams</p> <p>Matching project structures to innovation tasks</p> <p>The innovation funnel</p> <p>How ideas spread and diffuse – S-curves and other models</p> <p>Innovation adoption across populations</p> <p>Key influences on adoption decisions – innovation characteristics, innovator and adopter characteristics, environmental factors, etc.</p> <p>Crossing the chasm and high technology marketing</p> <p>Creativity support and management</p> <p>Human resource management for innovation</p> <p>Cross-functional and crossdisciplinary working</p> <p>Options for innovation structures across organizations</p> <p>Managing ambidexterity</p> <p>Appropriability regimes and intellectual property management</p> <p>Knowledge capture, conversions (Tacit to explicit) deployment. Learning to manage innovation – auditing and building capability. Measuring innovation.</p>
M 2. Innovation strategy	
M 3. Searching for innovation opportunities	
M 4. Strategic selection	
M 5. Implementation 1 – managing projects under uncertainty	
M 6. Implementation 2 – adoption and diffusion	
M 7. Building the innovative organization	
M 8. Capturing value and knowledge management	

# Modules Year 2

Module	Outline Description
<b>Year 2, 'Frontier Issues' in Innovation management</b>	
M 9. Dynamic capability and changing context for innovation	Shifts in global environment – explosion of knowledge production, expansion and globalization of markets, fragmentation of demand patterns, virtualization of markets, increasing trend towards mass customization and co-creation, etc. Concept of innovation routines and need to adapt and reconfigure – dynamic capability. Identifying and exploiting opportunities for new venture start-up
M 10. Creating new ventures	Re-inventing established organizations through internal entrepreneurship – corporate venturing models. Managing the entrepreneurial process. Shift from knowledge production to knowledge flow and emphasis on flows into and out form a knowledge rich environment. Finding, forming and enabling performance in new networks. Key channels and mechanisms to enable knowledge flow – networks, bridges, gatekeepers, etc. Intellectual property and knowledge value issues. Recombinant innovation. Web-enabled tools for open innovation – innovation contests, markets, communities, toolkits and technologies
M 11. Open innovation	Dimensions of user involvement in innovation Lead users and user innovators Mobilizing user led innovation and co-creation Web-enabled tools for user-led innovation – crowd sourcing, communities and networks. Mobilizing internal innovators in large organizations Managing and deploying user-knowledge Models for service innovation and key differences between manufacturing-led and service innovation. Emphasis on users and co-creation of service Servitisation of manufacturing organizations Public services and innovation Role of design in innovation Creativity and design
M 12. User-led innovation	Design and construction of meaning in innovation Design tools and methods Design as keynon-price factor in competitiveness These are shorter inputs each valued at 2 ects and offered as a choice for students to complete a 15th module and the 90 ects requirement, such as:
M 13. Service innovation	Advanced creativity tools – TRIZ
M 14. Design-driven innovation	ICT-enabled Innovations Supply Chain Innovation Frontiers of Foresight for Innovations Business Model Innovation Social Innovation Eco-innovation,
Electives	

In order to comply with requirements of both the standards of EU education (the requirements of Bologna agreement) and international accreditation standards, the programme consists of 120 European Credit Transfer System (ECTS), spread over four semesters each semester containing 30 credits. At the end of the second semester (end of first year) Tunisian students will do a 6 weeks project work. The programme will be completed with a 12 weeks master thesis. The entire course is designed around 15 modules; each module corresponds to 6 ECTS. According to the international standards, 1.5 ECTS correspond to 10 hours of class and 20 hours of individual learning. Therefore, a module with 6 ECTS includes 40 hours of teaching and 80 hours of homework. To balance the workload, students get 60 ECTS every year.

## Structure of the Master Programme

Two years							
First year (60 ECTS)				Second year (60 ECTS)			
September – January		January – June		September – January		January – June	
1 <sup>st</sup> Semester		2 <sup>nd</sup> Semester		3 <sup>rd</sup> Semester		4 <sup>th</sup> Semester	
15 modules							
4 modules		4 modules + project work		4 modules		3 modules + thesis	
120 ECTS							
4 modules x 6 ECTS = 24 ECTS		(4 modules x 6 ECTS) + 10 ECTS project work = 34 ECTS		4 modules x 6 ECTS = 24 ECTS		(3 modules x 6 ECTS) + 20 ECTS thesis = 38 ECTS	
3600 hours							
4 modules x (60 h of teaching + 120 h of homework) = 240 h of teaching + 480 h of homework = 720 h		4 modules x (60 h of teaching + 120 h of homework) = 240 h of teaching + 480 h of homework = 720 h Project work = 100 h of teaching + 200 h of homework = 300 h Overall = 720 h + 300 h = 1020 h		4 modules x (60 h of teaching + 120 h of homework) = 240 h of teaching + 480 h of homework = 720 h		3 modules x (60 h of teaching + 120 h of homework) = 180 h of teaching + 360 h of homework = 540 h Thesis = 200 h of teaching + 400 h of homework = 600 h Overall = 540 h + 600 h = 1140 h	
30 lectures							
Module 1	Lecture 1.1	Module 5	Lecture 5.1	Module 9	Lecture 9.1	Module 13	Lecture 13.1
	Lecture 1.2		Lecture 5.2		Lecture 9.2		Lecture 13.2
Module 2	Lecture 2.1	Module 6	Lecture 6.1	Module 10	Lecture 10.1	Module 14	Lecture 14.1
	Lecture 2.2		Lecture 6.2		Lecture 10.2		Lecture 14.2
Module 3	Lecture 3.1	Module 7	Lecture 7.1	Module 11	Lecture 11.1	Module 15	Lecture 15.1
	Lecture 3.2		Lecture 7.2		Lecture 11.2		Lecture 15.2
Module 4	Lecture 4.1	Module 8	Lecture 8.1	Module 12	Lecture 12.1	Thesis: End of Year Two	
	Lecture 4.2		Lecture 8.2		Lecture 12.2		
Project work: End of Year One							

# Implementation and Knowledge Transfer

One of the major questions within the project is: How to transfer innovation management know-how and knowledge from universities in Europe to Tunisia? The process of knowledge transfer was managed by forming joint international teaching teams. European and Tunisian teachers shared their knowledge within teaching teams for their individual module and filled each course with innovation content. As the programme is a cross-universities master programme it was taught at the three Tunisian project partner universities ENIT, ESSEC and IHEC.

Anis Allagui from ENIT took the role of an executive director to coordinate students. As the

programme is being implemented in Tunis it was necessary to have a person on-site who manages administration processes. Anis Allagui was the students' contact person for all important information regarding the master programme, e.g. information about teaching and exam dates. Furthermore, each year ENIT also managed the application process for our master programme. For the assessment of the applicants and final selection of candidates ENIT was supported by European and Tunisian project partners.

After recruiting the first cohort of 30 students in August 2012, the master programme started in October 2012. For the first cohort of students

courses were delivered jointly but under the lead of European teachers who also prepared, corrected and graded the exams for their modules. Thereby Tunisian lecturers were able to experience and try new interactive methods of teaching innovation management. By sharing knowledge Tunisians learnt new competences in order to teach the courses by themselves. Therefore the continuity of the master programme beyond the project period can be assured. Most of the modules were taught as a block course, some of them during a spring or summer school. Besides teaching also dissemination events for the programme took place during those spring and summer schools.



Students working in class

English is the major language that is used within the master programme. In order to ensure the same level of English for all selected students, a six weeks intensive English language course was organized from September to November 2012 in cooperation with the British Council in Tunis. At this point we would like to thank the British Council and especially Sarah Rolph for her support and help delivering the language course to the students.



<http://www.britishcouncil.org>



Dr. Anna Trifilova, Sarah Rolph and Anis Allagui.



In order to launch a new master programme at Tunisian universities the regulations of the Tunisian higher education system needed to be followed. It was necessary to apply for a license from the Tunisian Ministry for Higher Education for implementing a new master programme. In July 2012 the master programme received its authorization and was able to start.



## International Accreditation

Ensuring the quality and raising the international awareness of a degree programme can be accomplished with an international accreditation. Besides quality and awareness aspects an accreditation also has positive economic effects as this is an incentive for European enterprises who are intending to invest in North Africa. An accreditation institute gives a seal guaranteeing a high quality education. Especially European companies might recruit students who had an education according to the European standards on the one hand, and who are able to understand very well the Tunisian culture and communicate in the local language on the other hand. North Africa and other emerging economies are, more than ever, in need for staff that innovates continuously and help the industry face the international competition. Therefore also local enterprises can benefit from the skills of the innovation management students.

The German accreditation agency ASIIN was chosen to verify and certify our master programme Innovation Management. Besides a training with ASIIN GmbH experts in September 2013 also four accreditation workshops from No-

vember 2013 to January 2014 were organised within the DICAMP project to work jointly on the accreditation application.

It is necessary to prove that the quality of the programme is based on the functioning of the qualification process of the students and the effective achievement of learning outcomes. The content quality of the master programme is influenced by internal objectives and requirements within the university but the content should also be oriented on external needs including the



On-site accreditation visit in Tunis in June 2014

political, legal and socio-economic situation in Tunisia. After submitting the accreditation application in May 2014 a two days on-site accreditation visit was organized in June 2014. The accreditation on-site visit team consisted of four external German peers; one invited student from outside the master programme but from a similar subject area to serve as a peer, too, and one representative from ASIIN. Currently Tunisian universities ENIT, ESSEC and IHEC are working on the some requirements given in the mainly positive ASIIN feedback received in October 2014. If the programme fulfills the given requirements for further improvement before June 2015, it will be accredited and awarded with an ASIIN seal until 2019.

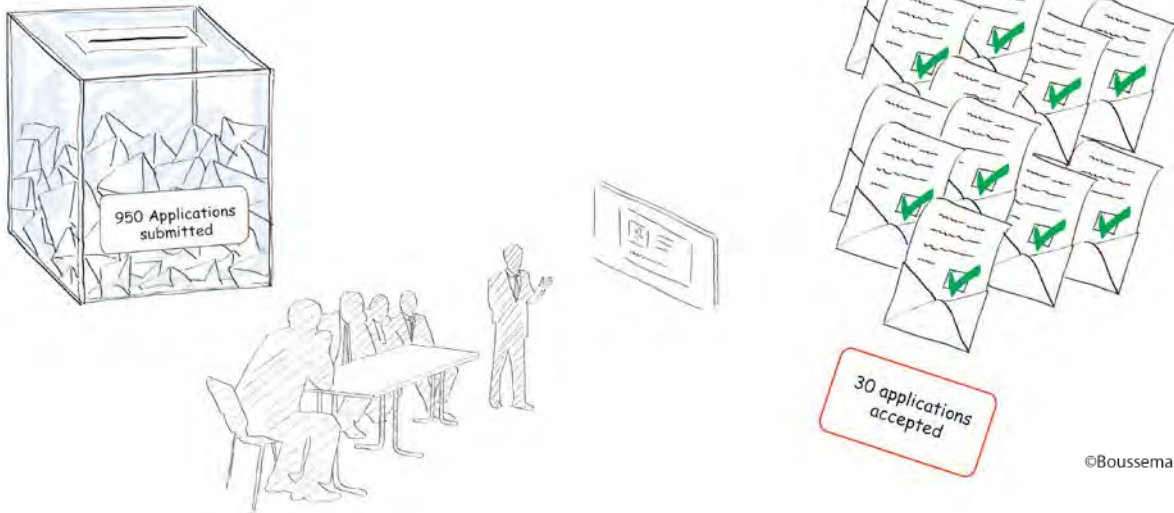


Training with ASIIN in Tunis in Sept. 2013

## Selection Process

The team of ENIT is responsible for managing the online application process of the master programme on behalf of the three universities. Graduates from Engineering, Technical and Business Management Schools as well as professionals are welcome to apply for the programme. Starting in May 2012 they publish each year the call for applications on the website of ENIT and ESSEC as well as in the newspapers La Presse (in French) and in Assabah (in Arabic). Interested person are asked to apply online on the website of ENIT using an application tool. After the first selection step candidates will see online who passed the first round and they are asked to hand in a paper application. Candidates who also passed round two are invited to the interview. Together with colleagues from ESSEC and IHEC they form a jury, conduct the interviews and select 30 students. The admission to the programme is based on a ranking. Credits are as follows:

- Credits based on the paper application
- Credits based on the interview in English in front of a jury



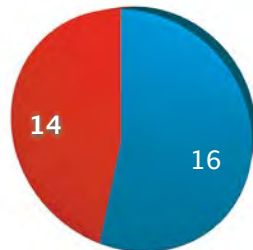


## Students 2012

By the end of July 2012 ENIT received 953 applications for the master programme for class one. Out of these 953 applicants 105 candidates were selected for the face-to-face interview. Finally 30 candidates were selected to be the first students of the master programme Innovation Management. All of them have diverse backgrounds from business and management as well as engineering, technical studies and science. Some of them are full time workers (engineers/managers) and have a permission from their employees to study the programme. In September 2012 all 30 students were officially enrolled into the programme. During the first year two students left the programme for personal reasons, so the first cohort consisted of 28 students. This first cohort of students finished their studies within the project period, graduated before the end of the project and had special benefits. They were taught by European professors, received an intensive English language course and had the chance to do their project studies or master theses in Europe at the partner institutions. For the students that were selected in 2013 and 2014 Tunisian teachers will teach the courses completely on their own without having an English course before and they will do project study and master thesis in Tunisia.

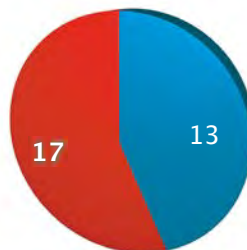


**Previous degree of the students**



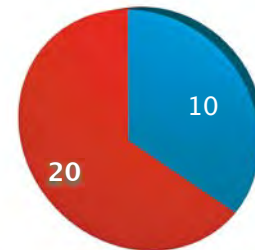
● Business and Management  
● Engineering, Technical Studies and Science

**Gender of the students**



● Male  
● Female

**Background of the students**



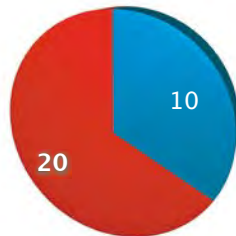
● Professionals  
● Just Graduated

## Students 2013

In June 2013 ENIT's online application server counted 527 applications for the second call to study the master programme which will be taught by Tunisian teachers only. They invited 135 students for the interviews which were conducted in July 2013. Another group of 30 students was selected and they were officially enrolled during our summer school in September 2013.

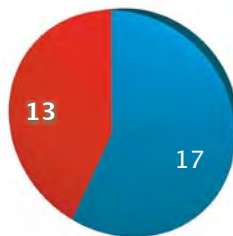


**Previous degree of the students**



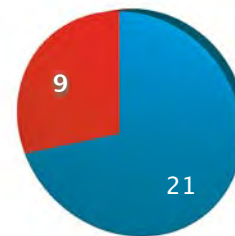
● Business and Management  
● Engineering, Technical Studies Science

**Gender of the students**



● Male  
● Female

**Background of the students**



● Professionals  
● Just Graduated

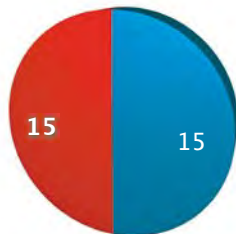


## Students 2014

After publishing the call for applications in the already named newspapers and on the universities' websites 748 applications were sent until the closing of the call in June 2014. The jury invited 103 candidates for the interviews which were done in July 2014. The third cohort consists again of 30 qualified students who have been officially enrolled into the programme in September 2014.

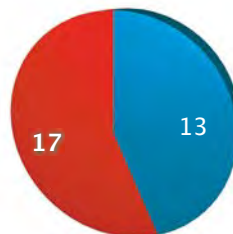


Previous degree of the students



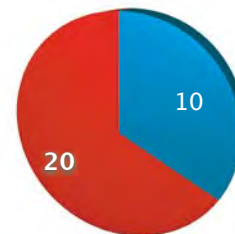
● Business and Management  
● Engineering, Technical Studies Science

Gender of the students



● Male  
● Female

Background of the students



● Professionals  
● Just Graduated

## Student Mobility

The master programme is designed with a project study at the end of year one and a master thesis at the end of year two which also represents the end of the study programme. Since Tempus includes funding of mobilities within the project, the first cohort of students had the possibility to do either a project study or a master thesis in Europe as a part of the DICAMP project.

14 students undertook their project studies for 1,5 months in Europe and 14 students in Tunisia. For the master theses the group of students that was abroad during the project study stayed in Tunisia, and vice versa for a term of 3 months.



## Project Studies in Europe



Social event in Leipzig

The six weeks project study offered all students the opportunity to work on a topic of their interest either in Tunisia e.g. together with a company of their choice supervised by Tunisian teachers from ENIT, ESSEC or IHEC (as joined supervision from the company and the university) or in Europe at the partner institutions from the DICAMP project supervised by European teachers. ENIT was responsible for the coordination of project studies in Tunisia whereas HSWT had the work package of managing European student mobilities. (Please read the interview with Dr. Thomas Decker on page 13 who was responsible for this work package.)

A list of research topics of each European partner was sent to the students in order to sign up for one topic, determining where he/she wants to go with that choice. Students were explained visa applications and the institutions arranged flights and accommodation for their Tunisian students. In June, July and August 2013 fourteen Tunisian students came to Europe to undertake their project study at one of the European partner institutions.

Joining the research team in Europe they got in touch with their supervisor and began to work on their project studies. All of them worked on diverse topics e.g. renewable energies, internationalization of educational services, business model innovation and design thinking or how to develop an efficient e-learning platform. Besides researching the students experienced European culture by working, living and travelling and all of them enjoyed their stay abroad. Also for European researchers who organized different social activities for the students, it was a huge enrichment and intercultural experience. During summer school 2013 all students defended their project studies in Tunis at IHEC in front of a jury of Tunisian and European supervisors.



Defense of project studies in Tunis



DICAMP students & team of HSWT



## *Master Theses in Europe*

From February to May 2014 fourteen students who did their project study in Tunisia now had the opportunity to join a European research team for their master thesis. Based on the chosen research topic they were allocated to each European partner who organized their stay including travel and accommodation. Also for the master thesis students were supervised at their host institution and topics came from diverse fields e.g. business model innovation, online collaboration, exporting and implementing of German educational services in Tunisia, crowdsourcing in Tunisia or innovative topics from health care.

Also with the master theses personal relations between Europeans and Tunisians grew stronger and the intercultural experience was more intense due to a longer stay abroad. Both sides enjoyed the three months sharing offices, having lunch breaks and doing joint social activities. For students who stayed in Tunisia, ENIT was coordinating the master theses. In June 2014 all students defended their master thesis in Tunis at ENIT in front of a jury of Tunisian or European supervisors.



DICAMP students in Leipzig



## *Graduation of Class one*

After two years of studying our master programme Innovation Management the first class of students graduated on 20 September 2014 receiving their diplomas. The ceremony was opened by the new director of ENIT Prof. Hatem Zenzri, the President of University of Tunis El Manar Prof. Fethi Selloueti as well as Prof. Dr. Ralf Reichwald. The event was also attended by parents, teachers and the third cohort of students.



Graduation class one in September 2014



## Interview with Anis Allagui (ENIT)



*Anis Allagui works at Ecole Nationale d'Ingénieurs de Tunis El Manar and is the Executive Director DICAMP Tunisia.*

How did you experience your role as executive director in Tunis for the master programme? What were your major tasks? What were the challenges?

It was an interesting experience. Working with an international team is really challenging and exciting. The main tasks were collaborating with the EU coordinators, working on deliverables, organizing events in addition to several local tasks (schedules, exams...).

What were your personal objectives when you started working for the master programme?

Mainly my objectives were managing a project with international colleagues and implementing a valuable degree in my school (ENIT).

Was it possible to achieve all these objectives? Did you need to adapt them?

I think that the objectives were achieved. Our master programme is now well known in Tunisia by students and companies. The challenge is to keep the same excellent standards after the Tempus funding is over.

What were the best moments and experiences you gained?

The meetings we had in Tunisia and Germany with foreign colleagues for the different workshops were all very rich and enjoyable moments. Also, the first auditions of the 1st cohort of students is a memorable moment as I considered it as the starting point of the whole project.

Would you develop and implement another master programme at your institution?

It would be great if the experience I gained from DICAMP could be useful for doing another EU project of implementing a master programme at ENIT. Innovation Management is an interesting field and we can do much more within this discipline at the graduate and undergraduate levels at ENIT.

What are your recommendations for other Tunisian universities who want to implement a new master programme within an EU project with many partners?

The first recommendation is to target up-to-date fields, especially those who are considered as national priorities (innovation, energy, environment...). Also to make the right choice when choosing the EU partners. For the case of DICAMP, we worked with partners who became friends in the end. I think that this was among others the most important key success factor of the whole project.

Thanks to Anis for answering the questions.



Project meeting in Leipzig in December 2012



## Library at ENIT

Textbooks are important for students to assimilate the content of the course and for lecturers to provide guidance to the students. One idea to improve the quality of the master programme was to create a new library with innovation textbooks. While designing the individual modules, each teaching team identified textbooks on which their course will mainly be based. Accordingly the titles of the required textbooks were ordered and shipped to ENIT, where the lending library with over 1500 textbooks on innovation is located. The creation of the library was part of a work package of the project partner Exeter University Business School who managed the order, shipment and installation. The students and the teachers of the master programme Innovation Management have access to the books and are encouraged to lend them.



## Concept DICAMP Innovation Lab

Fraunhofer MOEZ created together with the DICAMP students Ezzedine Ben Rhima, Mahmoud Ben Jeddou and Abdelmonam Kouka a concept for the DICAMP Innovation Lab, which is currently being implemented at ENIT (Ecole Nationale d'Ingénieurs de Tunis). The concept of the Innovation Lab follows the basic principles of the innovation process. The lab will be divided into three compartments: Idea Searching, Idea Prioritization and Idea Implementation. ENIT provided two rooms for realizing the Innovation Lab: one room will be an open space for Idea Searching and Idea Prioritization and another will be used for Idea Implementation, which is equipped with modern laptops funded by the Tempus programme. The three compartments will be implemented as follows.

- The Idea Searching area will have a red-colored wall because red symbolizes fire, activity and movement. This compartment provides a moveable sitting area with chairs, couches and tables as well as whiteboards, pencils, colored papers, post-its or magnets. The basic tools used in this area are creativity methods such as brainstorming, brainwriting, method 635, mind-mapping and the innovation contest platform [www.inno-master.com](http://www.inno-master.com).
- The Idea Prioritization area will have a yellow-coloured wall. Yellow is a symbol for brightness, clarity and understanding. The room should have a large desk with chairs, rolling flipcharts, meta-plan cards and laptops. The basic tools are scenario techniques, morphological box, impact analysis, decision tree, and the platform [www.inno-master.com](http://www.inno-master.com) to prioritize the ideas.
- The Idea Implementation area will have a green colored wall. Green stands for growth and construction. This area is equipped with desks, chairs, laptops, beamer and a presentation wall for the design and development of a prototype, be it a product, a software, a process, or even a business. Basic tools are computer simulations, checklists, action plans, design structure matrix, quality function deployment, and PERT charts.



Furthermore, a coffee area is recommended to induce a relaxing and creative atmosphere for the students (figure 1). Our three DICAMP students from the first cohort: Ezzedine, Mahmoud and Abdelmonam are actively involved in putting together the DICAMP Innovation Lab at ENIT. The students not only created and printed posters, cleaned and equipped the room but also Ezzedine bought a new linoleum floor for the lab from his own money. Thus

students have an instant access to the necessary innovation tools to facilitate the transformation of opportunities and ideas into real products and businesses. Besides they feel comfortable in the lab.

(Text by Dr. Nizar Abdelkafi & Romy Hilbig)

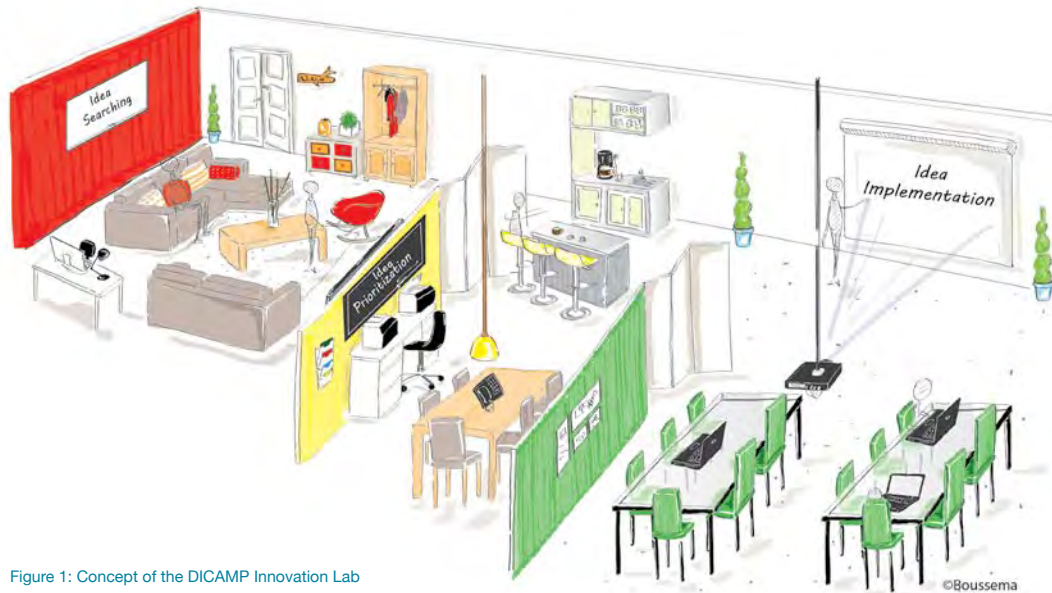
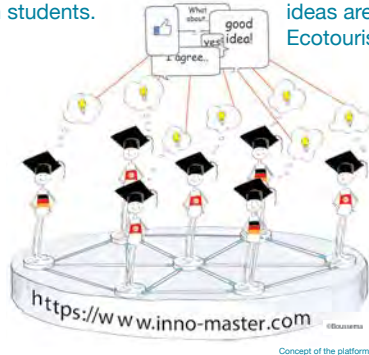


Figure 1: Concept of the DICAMP Innovation Lab

## Platform

### First Cross-Cultural Innovation Contest at [www.inno-master.com](http://www.inno-master.com)

Besides the design and implementation of the DICAMP innovation lab, Fraunhofer MOEZ is also responsible for developing a virtual platform, [www.inno-master.com](http://www.inno-master.com), which enables the project partners to conduct intercultural innovation contests, in which Tunisian and European students can participate (Figure 1). The concept of the inno-master platform is based on the idea of open innovation, whereby external users are involved in the innovation process. Thus, the platform drives collective creativity, providing students the opportunity to practice their innovation skills they get during the diverse lectures of the master programme. Problems, innovative ideas and solutions can be discussed interdisciplinary. From a research perspective, innovation contest platforms can provide a test bed to analyze the differences in the innovation behavior of the European and Tunisian students.



Tunisian and European students develop and discuss ideas together to solve an innovation task. As part of module 8 “Capturing value and knowledge management” within the DICAMP master programme, the first cross-cultural innovation contest has been implemented on [www.inno-master.com](http://www.inno-master.com). The contest has been run from December 2013 until February 2014 between the DICAMP students and students of the University of Leipzig who attended the lecture Basics of Innovation Management held by Prof. Dr. Thorsen Posselt and Dr. Nizar Abdelkafi. The Tunisian and German students worked on the same task that is to generate creative ideas for grass root innovations that make life easier and better in developing countries. Both student groups had to create an innovation team with 4 to 5 members (Figure 2). Examples of the students’ innovative ideas are: “Tablet PC for Africa” or “Agricultural Ecotourism for Tunisia”.

The analysis of this cross-cultural innovation contest shows that German students have posted more ideas per participant than the Tunisians (average of 1.00 idea per German student and average of 0.81 idea per Tunisian student). Moreover, the German students wrote almost as twice as many comments as the Tunisian students (Average of 1.54 comments per German student and average of 0.81 comments per Tunisian student). Based on these figures, we can conclude that the German students have exhibited a higher level of activity on the platform than the Tunisian students. The ideas posted by the students have been analyzed by means of a content analysis. The ideas of the Tunisian students are aimed to solve social problems, whereas the ideas of the German students tackle social and technical problems. In addition, the ideas of the German students cover various problems simultaneously. Their ideas are also focused on physical products whereas the Tunisian students came up with more service ideas and process solutions. It can be concluded, at the end, that cross-cultural innovation contests are not only useful in innovation research, but also in fostering cooperation and exchange between European and Tunisian universities.

(Text by Dr. Nizar Abdelkafi & Romy Hilbig)

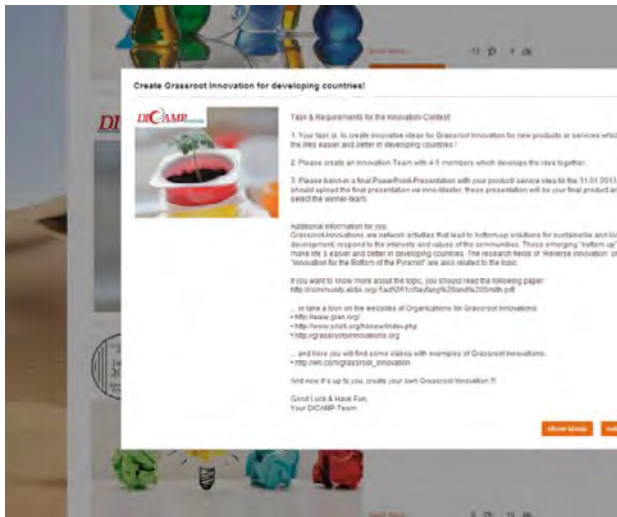


Figure 2: Task on [www.inno-master.com](http://www.inno-master.com) of the first cross-cultural innovation contest



Figure 1: Homepage of [www.inno-master.com](http://www.inno-master.com)



# Dissemination

As for every company or institution also for our DICAMP project it was important to create a coherent visual image especially regarding the dissemination. Therefore we decided to work with a graphic designer in order to develop a corporate DICAMP design which includes a project logo, visual design of the project website, project newsletter and printing materials

(brochures, poster, etc.). Using recurring fonts, colours, and visual elements helps achieving a high recognition value and supports the promotion of the project. For DICAMP many dissemination activities were implemented using physical and digital media to diffuse the project results, at an national and international level.

## Project Website & Facebook

Please visit us on [www.dicamp.eu](http://www.dicamp.eu) or follow us on facebook [www.facebook.com/dicamp.eu](https://www.facebook.com/dicamp.eu)





## Master Programme Website

The master programme website is informative for the students who are enrolled and those who are interested in the programme. Besides the syllabi also teaching documents are uploaded on the website.

Visit us on [www.enit.rnu.tn](http://www.enit.rnu.tn) or on [www.dicamp.utservices.org](http://www.dicamp.utservices.org)

## Project Newsletter

The DICAMP newsletter is published once a month and aims to inform about the recent activities within the DICAMP project as well as the current developments within the master programme Innovation Management. It is a digital newsletter that is sent via email to all the subscribers, all project partners, students, teachers as well as contact persons of Tunisian industry and politics. Additionally all recipients of the newsletter are asked to forward the newsletter to local stakeholders. A subscription for the newsletter can be done on the website. Next to the subscription field is the newsletter archive. Here all the newsletters are being collected and can be downloaded.



## ... and more

Besides digital channels to promote the project and the master programme we also created physical ones like brochures, t-shirts and other material to distribute them among students, project partners, companies, etc.



## Sustainability

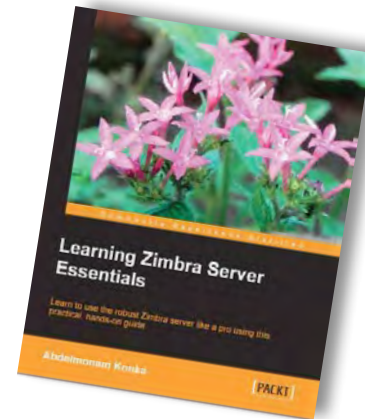
After the first two completed years of the master programme our first class of graduated students is able to apply their skills and knowledge about innovation management, to question and propose ideas while creating and sustaining an innovative culture. Most of them applied their experiences from class already during the programme within their own start-ups or companies they are working in. For others the programme was a door opener to the first or a new job. To ensure employability of the graduates, a clear focus on

the job market perspectives and the interests of young career makers should be major future objectives for the programme. Thus, students will be enabled to work in a sphere appropriate to their qualification. By organizing public conferences we already raised the awareness for the programme in Tunisia but a deeper involvement and support of companies is necessary for the constant updating of the master programme to the job market and to establish links to the industry and public institutions. These links to cooperative

partners outside the university context are also important for the project work and master thesis of the students. While working with the students, companies will be motivated to innovate which gives them the opportunity to grow and compete within the local market as well as the global economy. The sustainability strategy should not only focus on the master programme itself. It aims at growth of the Tunisian economy in the near future by looking beyond the teaching of innovation and entrepreneurship.

## Meeting the Students

**Abdelmonam Kouka** published his own book “Learning Zimbra Server Essentials” during the master programme. He was also able to further develop his own company TAC-TIC Group which provides IT network services to the telecommunication industry ([www.tac-tic.net](http://www.tac-tic.net)).



**Mahmoud Ben Jeddou** is the cofounder of an NGO named Tunisian Knowledge Society. Together with Abdelmonam Kouka he established the project M'Health Discovery which both presented at the First German-African Start-up Fair in Berlin in October 2014 organized by the Partnership with Africa Foundation e.V. They want to create innovative health care solutions for African citizens and developed a mobile application that helps to prevent epidemic diseases by early recognition, advises for treatment and addresses of the nearest health care center.

**Khaoula Behi** is supporting Taabir, a non-governmental association which is a network of young bloggers and activists from whole Tunisia, who are fighting for democracy and human rights by documenting human rights violations with different media formats ([www.twitter.com/freetaabir](http://www.twitter.com/freetaabir)).



**Zied Ouerghi** found his own start-up in the IT sector named CAF Consulting ([www.caf-consulting.com](http://www.caf-consulting.com)). He created and technically implemented the website for the first Innovation Master Conference that took place on 24 September 2014 in Tunis.

**Borhen Triki** created the website [www.uncv.net](http://www.uncv.net) that supports people to find a job with the help of advanced search criteria which are managed by a filter to classify jobs by region, specialty, type of contract and salary range. UnCV.net also provides information how to structure and write a resume.



Others were able to find good positions in Tunisian companies e.g. Radhouane Baklouti (OMV Tunisia), Emna Ben Said and Yassine Ayari (HR Access Solutions Tunisie), Mahmoud Nacef (Orange Tunisie), Ezzeddine Ben Rhima (ABC WEBMARKETING), Imen Belhadj (CSM GIAS), Aida Boukhris (AppCon Technologies), Ghada Carter (enda inter-arab) and Dorra Hattab (Decathlon) or they found jobs in Europe like Sahbi Ben Amor who currently works in Asperg/Stuttgart at Intellixx.

During our last project events in Tunis in September 2014 the DICAMP Alumni Network was developed. Our first cohort students will further push the network by organizing events and meetings. The students especially Aida Boukhris, Henda Fella, Zied Ouerghi and Sahbi Ben Amor organized the First Innovation Master Conference that took place on 24 September 2014 in Tunis with presentations from companies (e.g. HP, Dräxlmaier), university representatives and the students themselves



Conference Organizing Team

*Thanks to all DICAMP students who supported the project  
and further promote our master programme. You are great!*



DICAMP team and students at the innovation event in Tunis in October 2013





## *Postface*

“From my own experience I can say that the Innovation Management master programme gives great opportunities for an academic and personal development. Students have the possibility to develop specific knowledge, depending on their own interest. Thus, academically this was the best opportunity to make contact with researchers outside of my home country and to see different approaches and opportunities.”

Montacer Belhadj, Class one

The European DICAMP team was accompanying 28 students for two years within this master programme. We taught them how to manage innovations by applying terms like design-driven or user-led innovation and by covering the technological, market and organizational aspects. We worked with them during project studies and master theses on diverse fields of research. Reflecting about all those experiences now it is time to say thank you to our great students who also taught all of us many new and interesting things about their country, their culture and lifestyle. Hereby we also want to thank all project partners especially the teachers from ENIT, ESSEC and IHEC as well as the European partners. Every one of us learnt a lot in the DICAMP project and we would like to encourage other universities to work in the field of higher education in North African countries – it is highly enriching!

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