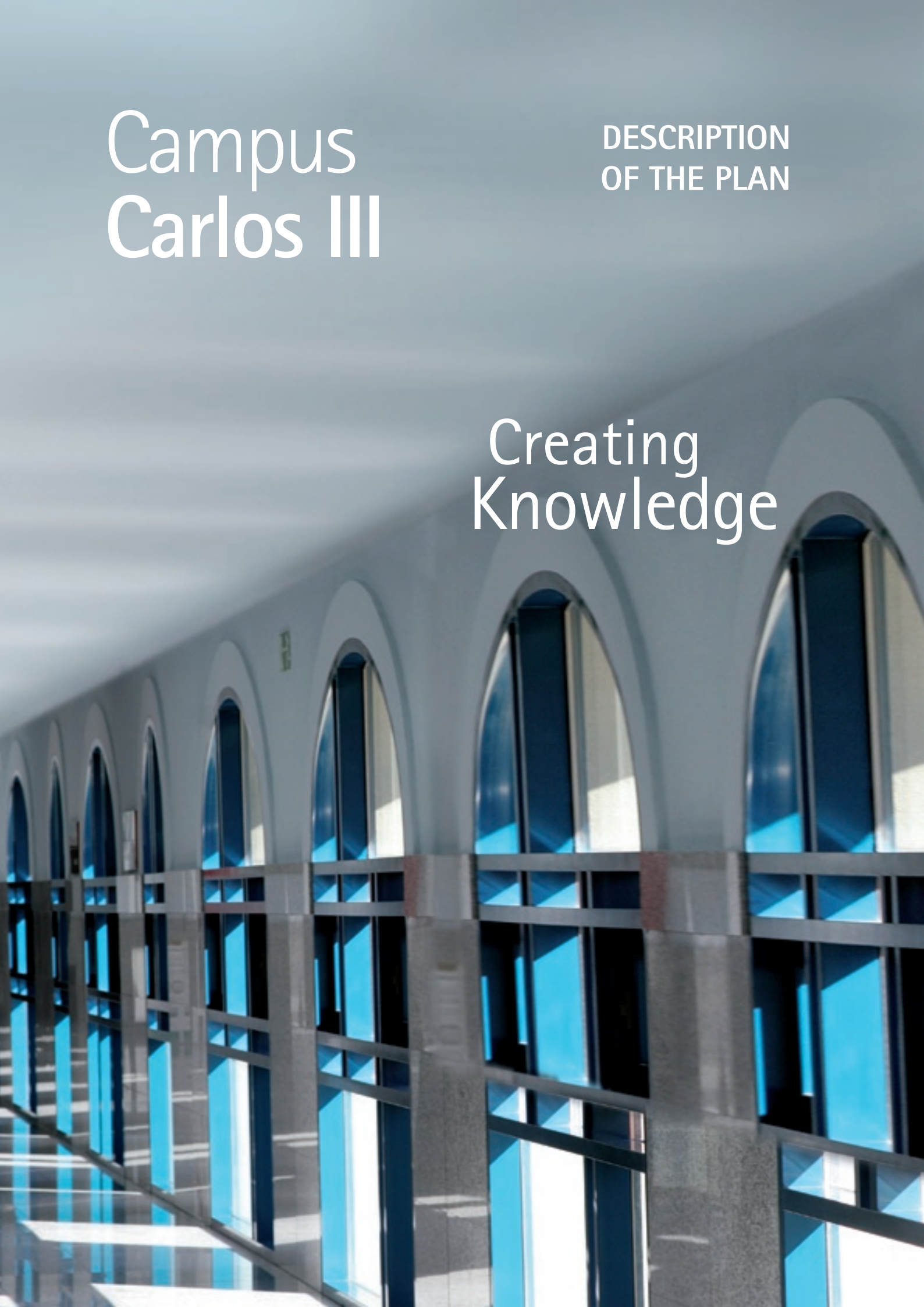


Campus Carlos III

DESCRIPTION
OF THE PLAN

Creating
Knowledge



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FOREWORD FROM THE RECTOR

This document presents the strategic plan for Campus Carlos III to become a Campus of International Excellence. It has been structured following the guidelines established by the Ministry of Education. We first propose the strategic objectives of the university. Second, we analyze the available resources to achieve these goals. Third, we present the strategic dimensions, which we plan to develop in order to advance towards our objectives over the next four years. Several indicators have been selected to monitor the success of the policies implemented in the five strategic dimensions.

Campus Carlos III can only be successful if the whole university community – faculty, students and staff – considers it as their own and feels responsible for its achievement. Thus, in a short period of time, a great effort has been made to involve all sectors of the university in this project. First, a message was sent to the entire university community indicating that the previous version of this Plan was available on our web page and asking for comments and suggestions. Many members of the university community, faculty, students and staff, sent suggestions and comments which led to an improved version of the Plan. This second version was then sent to a selection of senior faculty members and the student representatives asking for their specific comments. A third version of this document, including the comments received, was discussed and approved in the Consejo de Gobierno (Highest university decision-making body in which all sectors of the university are represented) on October 29th, 2009. Finally, the last version was also sent to the Consejo Social (University Board of Trustees) and all the stakeholders integrated in this project.

Many quality indicators already place our institution in the top group of Spanish universities. The strategic aim of Campus Carlos III is to become one of the leading European campuses, due to its commitment to excellence in research, quality teaching, defense of equality and people's rights and promotion of the value of knowledge to improve our society. In order to advance toward this strategic goal, we will concentrate our efforts on Attracting Talent and incorporating an International, Interdisciplinary and Innovative approach into all our activities.

I would like to express my deepest gratitude to all the members of our university who have contributed, in many different ways, to this Plan. I also wish to thank all the institutions that have enriched it through their participation. We all share the view that Campus Carlos III is a first step in a long journey, because excellence is not an end point but a path to follow. The most important assets of our university are the quality of our people and our culture of consensus and hard work, and with these attributes we cannot fail to reach our horizon.

November, 2009

Daniel Peña
Rector





1. INTRODUCTION

This document presents the strategic plan for Campus Carlos III (CCIII) to become a Campus of International Excellence. It has been structured following the guidelines proposed by the Ministry of Education. We first establish the structure and components of the Campus and the role of each partner. Second, we present the strategic objectives of CCIII, including learning and European convergence, research and knowledge transfer, and campus transformation. Next we analyze people, services and infrastructures as the basic available resources to achieve these goals. Fourth, we introduce the strategic dimensions, which are the tools to advance towards our objectives over the next four years. They include attracting talent, internationalization, an interdisciplinary approach, innovation and quality, and fundraising. Finally, we discuss the main strategic research lines to develop in the next four years. In the related document, "Qualitative and Quantitative Results", several indicators have been selected to monitor the success of the policies implemented in the five strategic dimensions of the Campus.



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Campus Carlos III:
**a cluster
of knowledge**

2. CAMPUS CARLOS III: A CLUSTER OF KNOWLEDGE



Campus Carlos III (CCIII) is the aggregation of different institutions to develop an interurban and sustainable campus located in the Comunidad de Madrid (Madrid Region). The aim of the clustering is research, transfer of knowledge and teaching of international excellence at the level of the top European universities in the fields of Social Sciences, Engineering and Humanities.

The institutions that have joined their interests with UC3M to develop this cluster project are the Consejo Superior de Investigaciones Científicas (National Research Council), 4 Universities Alliance, Hospital Universitario de Getafe (Getafe Teaching Hospital), Hospital Universitario Gregorio Marañón de Madrid (Madrid Teaching Hospital), EADS (European Aeronautic Defense and Space Company) (Airbus), CIEMAT (Research Center for Energy, Environment and Technology), Leganés Tecnológico (the Technology and Scientific Park in Leganés), the municipalities of Getafe and Leganés, Comunidad de Madrid, the Networks and Materials IMDEAs (Madrid Institutes for Advanced Studies),

Ministerio de Sanidad y Política Social (Ministry of Health and Social Policy) and Ministerio de Vivienda (Ministry of Housing).

The role of the key players involved in the project is:

- **Consejo Superior de Investigaciones Científicas (CSIC) (National Research Council)**

UC3M and CSIC will create the Center for Global Change, an interdisciplinary research center that will develop research on climate change. It will bring together research areas of both institutions and will include different fields, ranging from renewable energy to changes in migration. Moreover, both institutions will continue the development of the Joint Research Institutes ICMAT and IEMATH in the field of Mathematics, along with other Spanish universities.

■ 4 Universities Alliance

This alliance is formed by Universidad Autónoma de Barcelona, Universidad Autónoma de Madrid, UC3M and Universidad Pompeu Fabra. Its main goal is cooperation in teaching, research and the international projection of the four universities. Several CCIII projects will be developed with the help of the Alliance framework.

■ Hospital Universitario de Getafe and Hospital Universitario Gregorio Marañón de Madrid

Both Hospitals play a crucial role in the development of the field of Biomedical Engineering, by collaborating in teaching and research and by providing facilities and laboratories which are indispensable for research in several key areas.

■ EADS (Airbus)

This partner covers different interdisciplinary fields. First, EADS (Airbus) is part of the Aerospace Engineering project, providing resources for the creation and consolidation of research facilities. Second, the Joint Center for Integration of Aerospace Systems EADS-UC3M is a joint venture including EADS (European Aeronautic Defense and Space Company), UC3M, the industry and other social agents devoted to fomenting innovation, knowledge generation and transfer to the aerospace sector.

■ Centro de Investigaciones Energéticas, Medioambientales y Tecnologías (CIEMAT) (Research Center for Energy, Environment and Technology)

UC3M and the National Research Center for Energy, Environment and Technology (CIEMAT) are creating the large fusion facility at UC3M called TecnoFusion in the framework of the National Program for Singular Installations (ICTS). The facility will be oriented to the production of new materials that will permit the use of developed technologies in the ITER at a later stage.

■ Scientific and Technological Park in Leganés – Leganés Tecnológico

The Scientific Park is itself the result of the aggregation of public and private institutions: public institutions such as the University, the Comunidad de Madrid and the local Government of Leganés; and private institutions such as the different companies involved in the Park.



Campus Carlos III

■ Getafe City Hall

Getafe has a long tradition of collaboration with UC3M. It will play an important role in CCIII by providing land to build new buildings, by developing joint projects in transportation and pollution reduction in Getafe and by collaborating in the organization of cultural and learning activities directed at the entire population of this City.

■ Leganés City Hall

Leganés is home to the School of Engineering, the main auditorium of the University and the Scientific and Technological Park. From the beginning, Leganés has supported different scientific and cultural activities of UC3M. In this same line, Leganés will provide land for a new student residence hall.

These collaborations will also be extended to the University's Colmenarejo Campus, located in the north of Madrid.

■ Comunidad de Madrid (Regional Government of Madrid)

Comunidad de Madrid is responsible for the university system in Madrid and provides the basic financing for public universities. Its commitment in this project is crucial for its development and success. Two research institutes of the Comunidad de Madrid are located in CCIII: IMDEA Networks belongs exclusively to this Campus, and IMDEA Materials is shared with other institutions.

■ Ministerio de Sanidad y Política Social (Ministry of Health and Social Policy)

The Ministry and UC3M created the National Center for Captioning and Audiodescription (CESyA) in collaboration with the Real Patronato de Discapacidad y Dependencia (Royal Board on Disability) to develop new assistive technologies for the visually-impaired, sick, disabled and elderly.





■ Ministerio de Vivienda (Ministry of Housing)

Ministerio de Vivienda contributes to this project in two main areas. First, it will provide support for building new residence halls needed for the CCIII international strategy. Second, through our agreement with Sociedad Pública de Alquiler (State Rental Agency), our students and faculty will have improved access to housing in good rental conditions with a simplified procedure for international applicants.

The table contains some key figures of Universidad Carlos III de Madrid (UC3M) as the leading institution of CCIII.

*Data corresponding to December 31st, 2008

Key Figures UC3M	
• Students	18,478
Undergraduate	16,538
Postgraduate	1,940
• Faculty	1,695
Tenured Faculty (Full + Associates)	605
Assistant Faculty	170
Teaching Assistants	350
Part Time Faculty	570
• Administrative Staff	665
• Programs (Studies)	117
Undergraduate Programs	29
Master's Programs	69
PhD Programs	19
• Budget (2009)	175,927,410 €
• R&D external funding	34,421,940 €





3

Strategic objectives

3. STRATEGIC OBJECTIVES

3.1. Improving learning

This objective encompasses the provision of a distinctive, high quality learning experience for CCIII students whose knowledge and capabilities will enable them to have significant impact within their communities.

Current situation

One of the distinctive characteristics of UC3M is its ability for teaching innovation: improving methodology, incorporating new technologies, introducing quality measurement through surveys, providing programs taught in English, or offering dual degrees. Another important feature is being a pioneer in strategic actions related to teaching, such as adapting all its degrees to the European Higher Education Area (EHEA) in 2008/09.

The studies offered by the University include undergraduate, Master and PhD. degrees in three

different Schools: Social Sciences and Law; Engineering, and Humanities, Media Studies and Library Science. The University assumes a commitment for the continuous efforts to improve our learning processes which can be seen in different aspects.

First, UC3M since its origins has evaluated the quality of the learning process through Teaching Satisfaction Surveys (TSS). This information is used for hiring and promotion decisions and, recently, it has been included among the indicators used in the system of teaching incentives. Second, in the early nineties, the University established





the evaluation of all its programs by external committees. Third, each academic program is monitored by an internal quality committee including faculty and students.

As a result of these policies, our University's programs are in great demand. For instance, one of the most important newspapers in Spain publishes an annual ranking of undergraduate studies, similar in spirit to that of the Financial Times. This ranking highlights the top position of UC3M in Business, Economics, Law, Humanities and some Engineering studies. Last October, our University was included in the German CHE 2009 excellence ranking in Economics.

The quest for improving learning has motivated the leading role of our University in adapting all the programs to the European Higher Education Area (EHEA). In September 2008 all the undergraduate degrees offered by the University were adapted to EHEA, making UC3M the first university in Spain to achieve this goal. The adaptation to EHEA has implied a major challenge: adaptation of the new undergraduate curricula; clarification of teaching goals; modification of the teaching calendar including the dropping of the traditional September make-up exam; and changes in learning methodologies and assessment tools. It has also facilitated the continuous evaluation of student's progress and the provision of adequate and timely feedback.



As a consequence of these changes, the University has achieved a significantly higher average student admissions score. Over the last three academic years, this mark has risen from 6.91 to 7.33 (out of ten) as the demand has increased from 0.91 applications per place offered in 2006 to 1.41 in 2009. Likewise, the percentage of students coming from outside the Madrid region has risen to 29.6%.

In addition to scholarships for talented students, increasing the opportunities for further academic development is likely to attract better students. UC3M is offering a new program of complementary courses (minors) to top students and has also established a demanding program of dual degrees. Another way to improve the quality of learning is increasing the motivation and commitment of our students. The University has a very strict regulation to limit the time allowed to the students to finish their

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studies. Unlike many Spanish universities, at UC3M students have a limited number of opportunities to pass each subject. All these aspects contribute to our goal of attracting talented students looking for a more enriching university experience.

The University gives high priority to promoting diversity in learning experiences. Thus, UC3M completes the education of its students through mandatory humanities courses. Also, sports and cultural activities are an important part of student education. Internationalization of both faculty and students favors the introduction of different perspectives, cultural values and experiences in the learning process. Currently, there are eleven bilingual degree programs offered, and two which are given totally in English. Both of the new degrees in Biomedical Engineering and Aerospace Engineering will be also taught in English. Moreover, almost 20% of the master courses are taught in English,

and 37.5% of master students come from outside Spain. In addition, UC3M has achieved collaborative agreements at the undergraduate and graduate level for joint degrees with École National Supérieur d Arts et Métiers, École Supérieur de Commerce de Paris (ESCP), Helsinki University of Technology, Paris X, State University of New York, American University, and Aarhus University and Clemson University supported by EU Atlantis Program.

UC3M offers three masters with eight non-Spanish universities and business schools and it is involved in three EU Erasmus Mundus masters together with ten universities





from different European countries. In the 2009 Erasmus Mundus call, UC3M is one of the five Spanish universities selected to teach a new master, and is one of the two Spanish universities coordinating a master.

Faculty must be engaged in continuous improvement and innovation to ensure high quality instruction. In this vein, UC3M provides professional development opportunities for curricular and course innovation. Courses and workshops

addressed to our faculty, and incentive and recognition programs, such as the Plans for the Innovation and Internationalization of Teaching Experiences, are designed for this purpose.

The University also supports the use of new information technologies, especially by means of a customized version of Moodle as the basic teacher-student electronic communication tool. In addition to the electronic access to teaching material and class activities through Aula Global (Global Classroom), computer classrooms provide all students with the required hardware and software to carry out their learning activities. The e-learning postgraduate teaching is carried out through the Instituto Universitario de Postgrado (University Postgraduate Institute, IUP) in which three other Spanish public universities and the Santillana publishing company also participate. In 2008, nearly 1,000 students enrolled in programs offered by UC3M through IUP.

Our University is also part of the Open Course Ware (OCW) International Consortium and has 74 OCW courses for the open sharing of knowledge with a global community. Advanced multimedia services are used in teaching, lessons are recorded and provided to the students via streaming or podcasts and there is an institutional repository, ARCA, open to the entire community.¹

¹ All the relevant information can be found at <http://www.ocwconsortium.org>, <http://ocw.uc3m.es/ocwuniversia> and <https://marge2.uc3m.es/arca/>

Campus Carlos III

Improving learning

Aims

In order to achieve excellence in teaching and learning, CCIII must:

- Attract top students, making our Campus a center of reference and prestige, both for undergraduate and graduate studies
- Promote improvements in the learning abilities of our students by means of continuous assessment and the use of new technologies and electronic resources
- Provide comprehensive and interdisciplinary higher education that offers students an overall vision of current issues and encourages their abilities for complex problem solving
- Recognize and promote excellence in teaching activities by means of different systems of incentives and recognition
- Be an innovative University, able to incorporate the changes and demands of society into its curricula, and maintain a high level of reliability in its educational processes

Strategies

Our strategies for reaching these objectives are:

- Continuing to offer - and wherever possible, to improve on - grants/ scholarships to undergraduate students with the best academic records in order to achieve excellence through the attraction of talented students
- Supporting the cultural and social activities and services of the students union
- Encouraging collaboration with other prestigious universities to carry out joint studies
- Stimulating more flexible new forms of learning and teaching, through the use of new technologies and designs for classrooms and study spaces on the Campus
- Working with employers, professional organizations and other stakeholders to ensure that our undergraduate and graduate programs are responsive to their needs
- Encouraging and promoting the maintenance and, wherever possible, improvement of mobility grants awarded to graduate students
- Continuing to develop the professional capability of our faculty





3.2. Excellence in research

Commitment to research is fundamental to CCIII. It will promote high level international research and support interdisciplinary collaborations.

Current situation

Excellence in research has always been one of the main commitments of UC3M. Since its foundation, there has been intense research work in the 26 departments, 24 institutes and 118 research groups. All this activity results

in high quality international publications, Spanish and European research projects, and PhD theses.

Excellence in research is based on our faculty. UC3M has the highest percentage of professors with positive evaluations in research (sexenios); in 2008, UC3M was second among Spanish universities in number of publications with impact factor (Web of Science) per tenured professor (0.833), according to the "V Foro sobre la Evaluación de la Calidad de la Educación Superior y de la Investigación" (V Forum on Evaluation of Quality in Higher Education and Research), San Sebastián, 2009. Our University is also the first Spanish university with respect to the "S Index"; this index measures the relative success in the professor evaluation process of each university (according to the "Informe sobre resultados de las evaluaciones de la Comisión Nacional Evaluadora de



la Actividad Investigadora (CNEAI): La situación en 2009" (Report on Evaluation Results of the National Commission for the Evaluation of Research Activity: the situation in 2009).

UC3M is the second Spanish university in the number of PhD programs awarded a Quality distinction from the Spanish Ministry of Education (84.2% of the PhD Programs have this mention). It is also the Spanish institution with the highest number of PhDs with a José Castillejo fellowship (Ministry of Education) in the year 2009/10. Our effort in internationalization and attracting talent has permitted us to recruit 13% of our teaching staff from abroad.

In competitive calls for research funds, UC3M is also leader: it ranks second among the Spanish universities in number of research projects approved in the 6th Framework Program of the EU per hundred tenured professors; it is also the second Spanish university in number of research projects obtained in the "Plan Nacional de I+D+i" (National R+D+i Plan) per hundred tenured professors (10.46). Our University is also the first Spanish public university in competitive research and the second in research effort as stated in the Cotec report of Technology and Innovation in Spain in the year 2006.



Excellence in research

Aims

In order to achieve excellence in research at CCIII, we must:

- Support the development of world-class research in an increasingly competitive academic environment, both nationally and internationally
- Take action to place all academic departments and research groups competitively, ready for the evaluation of their research excellence
- Increase the high-impact research results in both absolute terms and per capita
- Develop conditions and look for opportunities to promote and encourage cross-disciplinary, cross-departmental and inter-institutional research
- Increase infrastructures and facilities for research
- Promote excellence in research through incentive schedules

Strategies

Strategies for reaching these objectives are based on:

- Recruiting and retaining excellent researchers from all over the world and on a competitive basis
- Ensuring that promotions are based on individual merits and effort, and that promotions and selections are based on the European Code of Conduct for the Recruitment of Researchers
- Approaching the international publications rate per professor to League of European Research Universities (LERU) average in four years
- Increasing the number of students in our doctorate programs and ensuring their adequate training and supervision to enhance the quality of their research
- Improving the number of Ph.D. theses submitted per year and increasing the number of Ph.D. theses with European mention
- Promoting the development of effective and productive collaborative partnerships, at local, national and international levels, with external stakeholders such as government agencies and industry
- Fostering interdisciplinary research and cooperation among researchers of different research groups, departments and institutions
- Supporting our faculty to realize their potential by facilitating continuing professional development and international mobility



3.3. Transforming the campus for social integration

CCIII is committed to promote the principles of equality, sustainability and social responsibility. These principles should be present in all decisions with the aim of providing students and staff a more inclusive perspective in their personal and professional development.

Current situation

CCIII has a strong sense of responsibility towards the community and is involved with a number of projects to minimize adverse environmental and social impacts.

Equality of opportunity is a key issue in CCIII strategy. One specific program, the *Programa para promover la igualdad entre hombres y mujeres* (Program to promote gender equality), envisages a 50% reduction in teaching activity during two years for maternity; also a period of two years per child is discounted while competitive productivity indexes are calculated.

CCIII is committed to achieving a continued reduction of our environmental impact and energy consumption. The sustainability policy encouraged by UC3M has resulted in a per person consumption decrease of electricity by 5% a year, of water by 10% a year, and a decrease of our contribution to CO₂ emissions by 8% a year.

Two good examples of this policy are the 180,000 kWh of energy savings in the "Ortega y Gasset" Building in Getafe, and an increase in the use of recycled-paper by 85% in the last year. Also, as a result of the University sustainability policy, renewable energy systems are present



in our campus infrastructures. For example, our swimming pool is heated by solar thermal panels. Furthermore, photovoltaic solar cells connected to the electrical grid in the Avenida del Mediterráneo Building are simultaneously used in our teaching and research activities, as well as the solar thermal panels located on the roof of the Agustín de Betancourt Building.

Undergraduate and master's degrees offer a wide variety of topics on sustainability. Furthermore, several research groups are working in this area and we have laboratories, such as BIOLAB (Laboratory for the Characterization of Biomass), related to environmental sustainability.

CCIII has plans to integrate a sustainable pathway between the Getafe and Leganés campus of the University by means of a bike/pedestrian path with rental bikes. This path will be built in agreement with the City Halls of both cities. We also plan to link this path to the railway station of Las Margaritas- Universidad, the new student residence hall and the Scientific and Technological Park.

Regarding social responsibility, an outstanding goal of CCIII is the integration of special needs students. The *Programa de Integración de Estudiantes con Discapacidad* (Integration of Disabled Students Program) supports those with special needs at the University. In particular, specialized staff provides support to students with difficulties or disabilities by helping them in the adaptation of teaching material, exams, class attendance, other technical help, or mobility. All students have access to orientation services to help them in improving their learning skills. This specialized staff also offers psychological support to any student who might need it. Student job placement services are provided by the SOPP (Career Guidance Center) and 98,9% of UC3M graduates find a job during the year after finishing their studies. The current average starting salary is more than €1.200 net per month.

Many actions have been taken to eliminate physical architectural barriers adapting our spaces for use by the disabled: specially equipped classrooms and rooms in the residences; better and easier building access; parking



lots with direct lift access to the classrooms, and new sports facilities. We have also modified our computing and telematics facilities and services to the visually or hearing impaired, adapting several computers, providing accessibility to web pages and audio-visual aids. In this last action, the contribution of the *Centro de Discapacidad y Dependencia* (Center for the Disabled and Dependent) and the *Centro Español de Subtitulado y Audiodescripción* (Spanish Center for Captioning and Audiodescription, CESyA) is noteworthy: both are located in CCIII.

It is our social responsibility to promote and assist our students in their personal, social and ethical growth: assistance work, associations and volunteer actions are encouraged to raise our students' awareness of social injustices and their compromise in the defense of human dignity.

Transforming the campus for social integration

Aims

In promoting equality, sustainability and social responsibility, CCIII must:

- Ensure equality of opportunities for all: promoting social integration of the disabled; ensuring that students and staff with special needs have access to adequate facilities; suppressing barriers for the full professional development of women
- Include sustainability and environmental concerns in all our activities
- Improve our efforts in sustainability by increasing our energy savings and reducing our emissions
- Promote social responsibility: encouraging student participation in associations involving welfare, associative and social work inside and outside the Campus, empowering the personal, social and ethical development of our students, improving support to our students for their complete and successful integration to social life and to their future professional career
- Prepare our students to be responsive to social injustices and foment their commitment to the defense of equality and human rights

Strategies

Our strategies for reaching these objectives are based on:

- Applying environmental criteria in all our administrative activities
- Investing in improvement of our buildings to make them innovative and sustainable spaces
- Continuing to suppress all architectural barriers
- Adapting teaching materials for special needs students and encouraging their national and international mobility
- Increasing our awareness raising activities, training and participation of our community in volunteer work and in assistance to special needs students
- Increasing our cooperation with external organizations in attending and representing disabled people
- Promoting women's participation in all decision-making bodies of the Campus
- Developing an orientation service to report and to solve gender violence conflicts
- Encouraging healthy habits in our academic community through awareness campaigns and cultural and sports activities
- Preventing discrimination and promoting equal opportunity



3.4. European convergence

The implementation of the principles of the European Higher Education Area EHEA should be used to improve CCIII educational offer making it more international, more flexible, more innovative and more interdisciplinary.

Current situation

European convergence implies four different aspects: adapting programs to European standards, encouraging mobility of students, emphasizing the development of competences and skills, and monitoring the quality of the learning process.

UC3M has given top priority to the European convergence process. First, it was the only university in Spain to transform in 2008 all its programs to the EHEA. Second, the University has supported the internationalization of its students by encouraging the exchange of students through the European Union's Erasmus Program. In the last two years, we have increased the number of incoming and outgoing Erasmus students by 65% and the number of outgoing and incoming students from non European countries by more than 500%. Right now around 20% of our undergraduate students graduate after having an international mobility experience of a minimum of five months duration. Third, to increase the interdisciplinary nature of our educational offer, UC3M was the first public institution of higher education in Spain to implement dual EHEA degrees. In 2009/10, the University offers 6 dual degrees and 3 degrees with a minor, adapted to the EHEA.

The implementation of the EHEA has increased the cooperation between the University and High School Education. For example, in 2007/08 there were more than 100 visits to high schools in order to inform potential students about the educational offering of the University.



In addition to these and other informative programs, UC3M organized several courses and workshops addressed to high school teachers.

The EHEA has also changed the way teaching is organized. At this moment, each subject is given in three on-site hours a week, divided into two sessions: one session in a reduced group of no more than 40 students with a practical or applied teaching emphasis, and a group session

Campus Carlos III

with a maximum of 120 students with a more theory-based focus. In engineering, or in subjects with lab time, students have additional hours of laboratory or computer lab in groups of 20 students.

These organizational changes require a new conception of space use and architecture of the campus. Different classroom sizes, flexible furniture, teamwork areas, spaces for learning foreign languages, or audiovisual equipment, are some examples of the modifications that the University has introduced for the new learning approach. Up to now, 57 classes (26% of the total number of classrooms) have been modified and, according to the Infrastructure Plan, 56 more classes will be adapted to current teaching needs over the next two years. In addition to teaching

areas we have created specific spaces for team work.

We have also extended the facilities for information and communication technologies. The University has developed a new computing platform for teaching, called Aula Global (or Global Classroom), aimed to support the application of more participative teaching methodologies.

Campus Carlos III requires a new communication strategy; a detailed international communication plan for four years has been implemented. Detailed information can be found at

http://www.uc3m.es/portal/page/portal/inicio/campus_excelencia_internacional/informacion

This process of European convergence has not concluded yet. For this reason, UC3M has defined several objectives, strategies and targets to ensure the accomplishment of EHEA principles.



European convergence

Aims

In pursuing European convergence, CCIII should:

- Improve the learning process of the students through continuous evaluation
- Increase the mobility of our students and the number of international ones
- Ensure that students develop skills and knowledge that allow them to obtain a wider vision of the real world complex problems
- Complete the implementation of all degrees initiated in the 2008/09 academic year
- Increase the subjects taught in English
- Certification of our professional-orientated degrees by international organizations in order to improve their quality

Strategies

Our strategies for reaching these objectives are based on:

- Improving the teaching procedures of our faculty by promoting exchange with other European universities
- Adapting all administrative procedures to European standards
- Encouraging original and flexible methods of learning and teaching through the use of new information technology and the innovative design of the teaching schedule
- Attracting international students and facilitating their adaptation
- Providing more opportunities for students to undertake professional placement
- Promoting the internationalization of our students by means of student exchanges such as the Erasmus program scholarships and exchange programs



3.5. Transferring knowledge and technology

CCIII aims to transfer the knowledge it generates to society. It collaborates with business, institutions and surrounding communities through exemplary knowledge exchange and technology transfer.

Current situation

CCIII is committed to transference of knowledge and research results to society. This transfer is formalized by means of different instruments such as the OTRI (Knowledge Transfer Office), research contracts with public and private institutions, the Scientific and Technological Park, research chairs, technological innovation centers, joint centers with companies or organizations, and the

creation of spin-off and start-up companies with a scientific and technological base.

OTRI is the focal point in the management and prospective of research activity as well as the administration of the funds generated by the University. It is structured in two offices: the Research Service Office and the Scientific Park. The mission of the first is to support researchers in the launching, management and carrying out of their research projects. In 2008 the University received a total of 35 M€ in research funding (51,241 per tenured professor), which represents 20.2% of the University budget. Of that amount, 38% belong to national public competitive research funding, 26% to private funding, 20% to European Union public competitive funding and 16% to others. Additionally, the Estudio Jurídico is a specialized office located in UC3M for knowledge transfer in the area of Law.

The Scientific Park of the University leads the scientific area of the Technological Park Leganés Tecnológico, whose promoters are the Regional Government of Madrid, the City of Leganés and UC3M. The Scientific Park has a twofold mission. On the one hand, it is a platform for transmitting to the University



the technology demands of the industry. On the other, it transfers knowledge, technology and research results from the University to industry. Today, the Park occupies an extension of 3,761 m² and 29% of the full-time University professors are involved in it.

We foster stable relationships between the University and the industry through research Chairs. With this kind of agreement, both the industry and the University agree to establish a collaborative effort of common interest, including participation in joint projects. Today there are 24 stable research chairs with leading companies and organizations such as Nokia, Telefónica, Ericsson, PSA, Fundación Areces, Merck, ROCA, PriceWaterhouseCoopers, Höganas, BSCH, Bancaja and CajaMadrid, among others.

The standard university structure does not favor the required speed and transversality for research transfer since researchers are primarily organized in vertical departments and research groups. The response of UC3M to this challenge has been the promotion of our own technological innovation centers and joint centers with different agents. For example, the Joint Center for Integration of Aerospace Systems EADS-UC3M is a joint action involving EADS (European Aeronautic Defense and Space Company), UC3M, industry and other social agents, devoted to promote innovation, knowledge generation and transfer to the aerospace sector. Other outstanding examples are the Center for Disability and Dependence and the Spanish Center for Captioning and Audiodescription (CESyA), created in collaboration with the Ministry of Health and Social Policy. This center has used speech recognition technology and ICT to enhance learning of deaf and hearing impaired students. It is worth mentioning the realization of a prototype of see-through lenses for the deaf, which were selected by the US TIME Magazine as one of the three best inventions of 2007.

The Scientific Park is also in charge of the Property Protection Office which manages the Intellectual Property Rights, patents at national, European and PCT levels, and software registration. The University has established incentive policies for this activity and participates in the exploitation of the patents.



Finally, the Scientific Park has established a program to create technology-based companies and a business incubator. In the last few years, 25 spin-offs, three Research Centers for knowledge transfer and more than 30 patents were created. The Scientific Park has shown proven efficiency to stimulate the entrepreneurial capacity and promote science and technology based companies (start-ups and spin-offs).

Transferring knowledge and technology

Aims

In order to achieve excellence in knowledge and technology transfer, CCIII must:

- Create an entrepreneurial culture by offering special courses for our students
- Promote the management of new ideas for commercial application
- Generalize the culture of protecting the research results with an increase of the number of patents in use

Strategies

Our strategies for reaching these objectives are based on:

- Increasing and improving intellectual property rights and commercialization of the research results
- Extending the technological transfer activities in collaboration with private and public firms and universities of emerging countries
- Increasing and developing the role played by the Scientific Park in knowledge and technology transfer
- Continuing to invest in infrastructures for research, particularly in the extension of the Scientific Park



3.6. Interaction between the campus and its surroundings

CCIII will play an active role in the civic, cultural and intellectual life of its local communities. This objective aims to extend the range of activities directed at promoting the wellbeing of the community.

Current situation

Our Campus model looks for a complete interaction and integration with the wider community to which it belongs. We seek to play an active role in the life of the inhabitants of our municipalities by promoting exhibitions, cultural and sports events open to the public, hosting students from schools and colleges as visitors in our laboratories and facilities, and establishing partnerships with companies from the surrounding region.



CCIII constitutes an urban campus that aggregates the interests of different stakeholders, such as the regional government, town halls, local firms, research institutes, or hospitals that take part in the knowledge-society interface. Though UC3M is mainly focused on the aggregation of the interests of companies and institutions of private and public nature in Madrid, it also collaborates with societies located in other Spanish communities and abroad.

Campus Carlos III



UC3M is involved in joint projects aimed at promoting cultural activities such as the agreements established with the Teatro Real, the Teatro del Liceo de Barcelona and the Círculo de Bellas Artes de Madrid. As part of our responsibility towards the community, our sports facilities are opened to all local citizens.

UC3M is also committed to developing cooperation with several societal agents. The University Cooperation for Development Office carries out its own volunteer programs in association with United Nations and AECID (Spanish Agency for International Cooperation for Development) Programs. Moreover, UC3M is involved in volunteer cooperation programs in Saharan refugee camps, or emergency assistance in humanitarian crisis (agreement with the Red Cross and the public universities of Madrid).

With the aim of making a positive educational contribution to society, in 2000 we launched the University for Older Adults program, directed to persons over 55 years old. It has been a success, as measured by the satisfaction of the public and the number of participants: 2,588 since it began.

CCIII is involved with neighboring High Schools as well. Visits to these schools provide information to future students and the guided tours organized for high school students, and seminars and courses for high school teachers are just few examples of such collaboration with the surrounding community.

Interaction between the campus and its surroundings

Aims

In order to promote the interaction and integration of the campus with its environment, we must:

- Promote strategic aggregations with corporations and institutions looking for mutual benefits
- Enhance and rehabilitate urban spaces, providing improvements to the buildings of the Campus and to the social environment which surrounds it
- Offer infrastructure for the cultural and athletic development of our community, promoting development and cooperation activities

Strategies

Our strategies for reaching these objectives are based on:

- Promoting our interaction and collaboration with the local city halls for better planning and development of the Campus activities in our urban environment
- Maintaining and improving the organization of cultural programs in the auditorium, such as concerts and theatre productions which are accessible to the general public
- Promoting the use of our residence halls as open spaces for activities to enhance cultural and intellectual community life
- Increasing our sports facilities and supporting the participation of the Campus community in sporting events and competitions
- Maintaining, improving and developing new relationships with companies and public entities in our environment
- Promoting development cooperation, increasing the number of cooperative projects, technical assistance and international volunteer action
- Launching a life-long learning program







4. RESOURCES

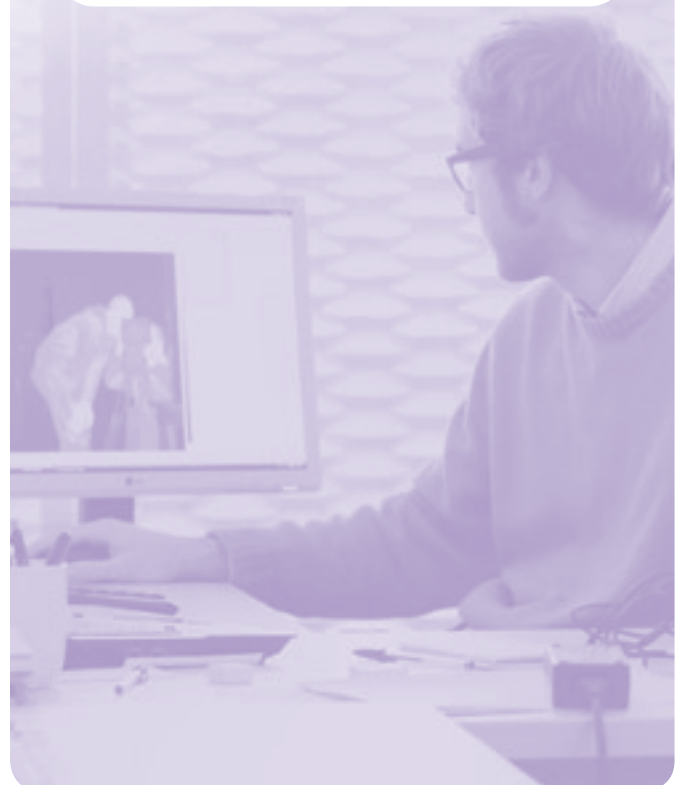
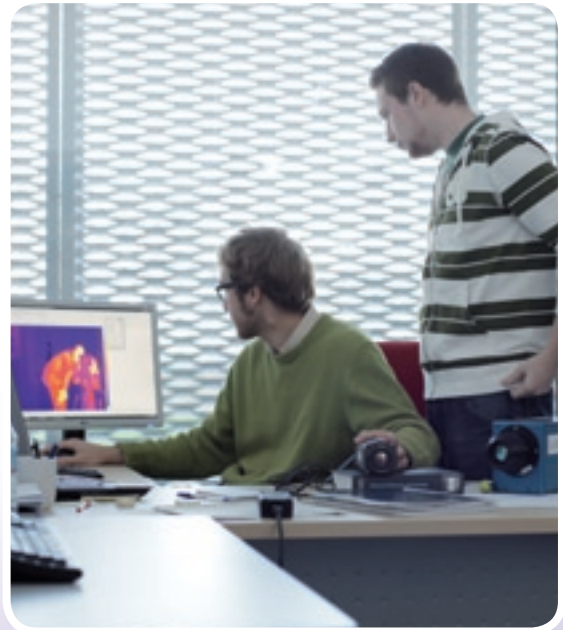
4.1. People

The capacity of CCIII to achieve its strategic objectives depends upon its endowments of critical resources, especially human resources. For this reason, the University must contribute to the development of its staff's knowledge and abilities, and keep people motivated, engaged and informed about their progress, while promoting principles of equality and diversity in a safe, healthy and enriching work environment.

Current situation

To realize our strategic objectives, CCIII will require human resources, services, and infrastructures that can support research and teaching activities. Among all these resources, having an outstanding Faculty and staff is the most critical factor to position the Campus in the international market.

UC3M has a tradition of working through consensus, reaching agreement and cooperation among groups and departments. We believe that people reach their full potential in an environment where they are listened to and their opinions can be expressed and discussed, and that commitment to transparency, objectivity and public service should be present in all university decisions. Thus we promote the participation of all the members of the University community in all decisions which may affect them and try to give as much information as possible to our people regarding the decision making process in the University. An effort is made in all governmental bodies of the University to reach consensus on the basis of our commitment to public service as a public university.





The University asks all the departments and hiring committees for objective rules of hiring and promotion for faculty, avoiding "inbreeding", and promoting equality and fairness. As a public institution similar rules are applied to our staff.

Regarding our faculty, the University has special programs to help young faculty members to have an international outlook and to visit and interact with leading groups and universities in their research field. For tenured faculty, two years ago the University established an incentive scheme for rewarding research excellence based on publications in prestigious journals, projects directed, research grants obtained and research evaluations (sexenios). Also all faculty members can apply for an incentive for excellence in teaching, which takes into account data from TSS (Teaching Satisfaction Surveys) or the use of information technology.

This year, UC3M reached an agreement with administrative staff unions to revise our human resources practices. Improvements included the design of objective criteria for evaluating professional career development or the conditions for participating in mobility programs. In order to support the professional development of our

staff, the University offers a broad range of learning and development courses. By the year 2007/08, 22% of our staff had taken part in these activities.

We have also taken steps aimed at improving the work environment – making it more healthy, safe, egalitarian, and diverse. For example, the University has promoted a plan for removing barriers to women's success, which includes measures such as a 50% reduction of teaching load for two years for maternity and the reduction of two years per child when computing individual productivity indicators. Together with these and other measures of equality, we carry out activities to promote social inclusion, including initiatives to make the academic community aware of this problem, socio-cultural activities, and volunteering to support special needs students, among others.

In addition, we continue working to develop programs to promote our staff's wellbeing. The Social Action Plan includes a wide variety of initiatives, such as help for looking after children, the elderly, and dependent persons under an employee's care; and the financing of medical expenditure, transportation, and life and accident insurances.

Campus Carlos III

People

Aims

In order to improve the motivation and commitment of our people at CCIII, we must:

- Promote and achieve best employment practices on equality and diversity matters
- Create an environment that enables individuals to perform to their full potential
- Ensure that workforce size and composition is appropriate for institutional requirements
- Embed an organizational culture that encourages and rewards effort and commitment to excellence
- Develop internal communication channels that encourage staff involvement in continuous development and allow individuals to be informed of their progress in the achievement of the University's goals
- Create a healthy, safe and positive work environment
- Use internal communication as a key way of maintaining motivation and engagement
- Support the development of the staff in preparing for, holding or stepping down from, leadership and management roles
- Continue to implement measures for efficient management of revenue, expense, capital assets and human resources, consistent with our long-term financial viability
- Promote a positive working environment supported by good management practices and clearly defined roles and responsibilities
- Continuing to advance equality and diversity strategies
- Promoting flexible work arrangements that encourage staff engagement
- Improving information processes and systematizing the monitoring of activities
- Improving people participation at all levels in university decision making
- Designing ways of promoting a culture around principles of health, safety and wellbeing
- Develop a strong international focus in all of our staff

Strategies

Our strategies for reaching these objectives are based on:

- Improving the investment in our staff's professional development



4.2. Services

Our services are designed to provide our academic community with a comprehensive environment for learning, teaching, research, knowledge transfer and management.

Current situation

Our catalog of services ranges from those provided to staff and students in support of their activities, to those that promote sustainability and ensure legislative and regulatory compliance. Every year we develop a program of specific projects in the administrative context. Each project can be either oriented to developing a goal of the Consejo de Dirección (Executive Council) in the year, or oriented to quality improvement of a specific service already in offer. As of 2009, there were more than 110 projects.

Three of our most successful examples at the highest levels of recognition in our yearly opinion survey about quality perception are the International Relations Service, the Computing and Communications Support Center, and the Library.

The International Relations Service is responsible for promoting mobility and embedding the culture of internationalization in our University. Through mobility agreements and other kinds of academic cooperation, the number of students and faculty in mobility programs has greatly increased in the last two years. The resources allocated to helping international students and faculty has almost doubled in the last two years. A new Welcome Office is in charge of helping incoming students with daily routines in their first days.

The Computing and Communications Support Center has been at the center of the cultural change in management, providing services and tools for teaching in the last fifteen years. More than 100 computer classrooms with



specific software are in service, all the usual classrooms and meeting rooms are equipped with audiovisual and computing equipment, and videoconferencing and distance learning can be performed in most of them. Our User Support Center has extended its know-how and tools to other Units, and we now have a unified Attention and Support Center for every kind of incident. The number of on-line self-services is incrementing constantly, and we are now in our third generation of an on-line learning support tool.

The UC3M Library is an active part of the institution and is responsible for acquiring, processing and disseminating information. Its aim is to improve and enrich the quality of the model of comprehensive education that the University offers to its members. Apart from the classical role of the University libraries (lending, study spaces, etc.), we offer a set of modern services to our students and faculty (ample opening hours, group work spaces, customized support for researchers, access to electronic data bases, laptop loans, 24 hour digital library, 100% Wi-fi facilities, self-study languages spaces, "how to use the on-line learning platform", etc.) and we participate in several consortia and European projects aimed at improving the quality and increasing the number of services provided to our community.

Campus Carlos III

Services

Aims

In order to improve the quality of the services at CCIII, we must:

- Implant an increasing culture of internal service and continuous improvement in the staff
- Deliver services which are based on an objective analysis of institutional priorities and user needs
- Facilitate and promote a "can-do" attitude and anticipate needs in a customer-focused culture

Strategies

Our strategies for reaching these objectives are based on:

- Responding to recommendations identified through quality improvement activities and suggestions
- Recognizing the importance of the professional contributions made by staff providing support services
- Ensuring that our management and support structures enable us to be flexible and responsive to new opportunities and changing contexts

- Enabling staff at all levels to take ownership of, and responsibility for, decisions relating to their service
- Continuing with the program of quality surveys of our services, from the students, faculty and staff
- Embedding the culture of using performance indicators



4.3. Infrastructures

The quality and quantity of infrastructures are the key elements to develop the main objectives of CCIII.

Current situation

UC3M has three campuses in the towns of Getafe, Leganés and Colmenarejo, all of which are equipped with state of the art teaching and learning facilities, cultural and sports facilities, and scientific laboratories.

There is a residence hall on each of the three campuses. At present, they have a total capacity of more than 900 rooms and offer a wide array of cultural activities that allow residents to participate in conferences, colloquiums, debates, talks, round tables, chats, art exhibits, sports activities, concerts, and theatre. The Auditorium, located on the Leganés campus has a seating capacity of 1000, and offers more than 50 different performances each year. It is equipped to host all types of small or large-scale music, theatre and dance productions, as well as to hold different large-scale academic events. Our sports facilities include two multi-sports centers, with open air tennis and squash courts, a 25 meter indoor swimming pool, gymnasium, and other facilities.

There are four libraries with a completely centralized and automated bibliographic system, holding more than 517,000 physical volumes, 7,300 periodic journals, 27,600 e-books and 33,650 periodic e-journals, with Special Collections and an Antique Book Collection, dating from the 16th century, of singular relevance received from the





"Clemente de Diego" depository. The library also provides free access to our "Open Archive", a repository of digital documents from the research and academic activities of our faculty.

Our academic infrastructures are being adapted to the new model of learning and teaching: practical learning in reduced groups of students, theoretical sessions in larger classrooms, and experimental activities in laboratories and computer rooms. We are continuing to invest in standard and specific laboratory equipment, as well as in audiovisual, multimedia, digital and other equipment to ensure our facilities are modern and adapted to the new learning necessities.

We provide advanced academic computing facilities in an increasingly technical environment characterized by, among other resources: free use of more than 1000 computers in our computer rooms; more than 200 classrooms with computers and built-in projectors; laptop computer loans to students; 100% Wi-fi access throughout the University; virtual rooms for lab sessions and remote work of the students; multimedia classrooms with recording and video-conference features. There



are also 5 TV and radio studios, multimedia production systems, editing booths and post-production rooms. Our 80 teaching laboratories in the School of Engineering also provide excellent access to the latest technologies.

In the area of research infrastructures, the University pushes for modern and innovative laboratories and equipment. These facilities were managed in a decentralized manner, most of them accessible for all researchers. Several research facilities, such as the mechanical and electronics workshops, high speed computing facilities or TV and radio studios are managed directly by the University and are also accessible for the entire community.

We will need new infrastructures to carry out the CCIII plan: new laboratories, a residence hall and a postgraduate building.



Infrastructures

Aims

In order to improve the quality of the infrastructures at CCIII, we must:

- Manage the use of space effectively
- Make our infrastructure more sustainable and responsive to technological and legal regulatory changes
- Ensure that our equipment and infrastructure are modern, well maintained and put to best use
- Create new facilities and adapt our present spaces to the new requirements of the EHEA
- Provide new spaces for the success of the future new degrees and postgraduate building
- Improve our infrastructure for greater transfer of knowledge
- Enrich our library collections and improve the conservation conditions of the oldest ones

Strategies

Our strategies for reaching these objectives are based on:

- Promoting a culture of space awareness and flexible approaches to the use of space across the Campus
- Creating new spaces for postgraduate teaching
- Continuing our maintenance and compliance work program in our installations
- Continuing to develop a systematic approach to the acquisition, storage, presentation and management of information resources
- Promoting web access of learning resources in all our undergraduate and master degrees with the continuous improvement of our web platform
- Turning our libraries into Centros de Recursos para el Aprendizaje y la Investigación (Resource Centers for Learning and Research)





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5. STRATEGIC DIMENSIONS

5.1. Attracting talent

Talent attracts talent and generates quality and innovation naturally. For this reason, UC3M has developed specific programs directed to all University stakeholders.

Current situation

Talent is a scarce resource essential to scientific activity. For this reason, the University has initiated several actions to increase its research quality and quantity through the recruitment, retention and development of talent.

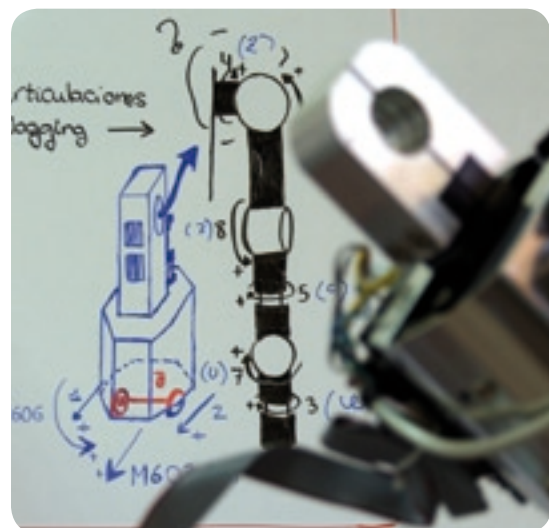
The first group of actions is aimed at attracting renowned faculty members. The central action is the Chairs of Excellence program, which is financed jointly with Banco Santander. To date there have been two calls granting 16 stays in 2008 and 17 in 2009 with a total budget of 1.2 million per year. More recently, the University has created, with the support of the Rafael del Pino Foundation, a program for Social Science endowed with 100,000 € which offers two positions to top international researchers. The University announces forty in-house postdoctoral stays every year for doctors who obtained their PhD in a university other than UC3M. We also have a large visiting faculty program with more than 200 researchers involved.

The University also supports its researchers in developing their talents, whether by financing their training or their stays at other universities. Aid to the mobility of researchers within the framework of the Alliance A4U

(Universidad Autónoma de Barcelona, Universidad Autónoma de Madrid, UC3M and Universidad Pompeu Fabra) or the annual sabbatical stays for tenured faculty are two examples of such programs. Young doctors and PhD students also have University specific programs to promote mobility, an issue of critical importance to develop their talent early on in their research. Regarding PhD and university master's programs, half of the students receive grants.

The Consejo Social (Board of Trustees) of UC3M has helped in this task by launching a program of awards for excellence directed at young faculty, staff, students and alumni. UC3M also has an incentive program to reward excellence in research and teaching.

To achieve the ultimate goal of knowledge development, the University also attaches great importance to attracting talented students and administrative staff. For instance we have a program for Spanish students from outside of Madrid, which has allowed the University to increase the number of students coming from other Spanish regions by nearly 30% during 2009/10.





Attracting talent

Aims

In order to attract and integrate talent at CCIII, we must:

- Recruit, reward, develop and retain high-performing faculty in order to increase the quantity and quality of research conducted at the University
- Encourage and promote international scientific cooperation of our faculty
- Build collaborative relationships with industry to facilitate attracting and retaining talented people
- Attract top students from all over the world, leading CCIII to be a reference in undergraduate and graduate degrees offered
- Attract students, academic staff and administrative personnel with talent through measures to promote diversity and equality
- Recognizing and rewarding research excellence through effective use of our program of financial incentives for researchers based on objective indicators (publications, research evaluations, competitive projects and supervised theses)
- Promoting collaboration with researchers from the best universities in the world in order to develop research competencies of our human capital, and encouraging the co-supervision of PhD theses with professors of international standing
- Implementing new degrees in Aerospace Engineering and Biomedical Engineering to revitalize and strengthen existing research activities of engineering departments
- Encouraging technology transfer from University to industry as a tool to offer talented people a professional development path
- Investing in new residence halls to facilitate the incorporation of international students
- Developing the Plan for Social Guidance and Action addressed to students in order to enhance personal development, facilitate academic and social integration of all students
- Encouraging cooperation with High Schools in order to inform, interest and attract the best students to pursue studies at CCIII
- Increasing grants and financial aid for high school students with strong academic potential
- Strengthening the programs of scholarships, grants and awards to mobility in order to attract the best graduate students
- Supporting the development of our staff through specific training actions
- Encouraging the active participation of students, faculty and staff in the development of CCIII

Strategies

The strategies of CCIII to attract and retain high-performing faculty are:

- Enhancing our policies of promotion based on excellence and effort

5.2. Internationalization

The UC3M operates within a global context; our students and faculty come from many different countries and need skills and knowledge to operate effectively within this global setting. For this reason, we will further develop an international view in our teaching and research, as well as in our cultural and social activities.

Current situation

Our main aim with CCIII is to be recognized internationally as an outstanding university for learning, research and knowledge exchange, and fully committed to all its stakeholders. The University has made progress in the achievement of that goal.

First, we increased our international visibility through our membership in prestigious international organizations, such as the European Association for International Education, the European University Association, the International Association of Universities and the League of Latin America research universities among others. With the same objective, UC3M's recently opened permanent European Office in Brussels (in partnership with A4U) will enforce the international projection of the university. This office will help to establish both the new research collaborations in the fields of 7th FP, ESA, EURATOM, as well as the new alliances in the field of European education policy. We also participate in international research collaborations, including: 39 scientific evaluation committees, 121 technical conference committees, and 92 editorial boards of scientific journals.

Second, UC3M is one of the most active Spanish universities in international research collaboration. It is the second Spanish university by relative participation in the 6th FP (according to CDTI source) and one of the first to





participate in several Japanese-Spanish research projects as well as in the global ones such as IMS with Japan, Canada and EU. Approximately one third of UC3M research income comes from the European competitive budget.

Third, we continually work to promote internationalization in our teaching. In addition to our commitment to the European Higher Education Area, we expanded our academic offer by including English in our degrees (by 2009, 11 are bilingual and 2 are taught completely in English) and incorporating new collaborative programs with foreign institutions, both at the undergraduate (agreements with American University, École National Supérieur d'Arts et Métiers, Helsinki University of Technology, Paris X, State University of New York, American University, and Aarhus University and Clemson University supported by EU Atlantis Program) and postgraduate levels (agreements with ESCP Europe and universities included in the European Union's Erasmus Mundus program). Our efforts are also geared toward the international accreditation of our degrees. Our MBA, for example, is accredited by AMBA.

Fourth, we foster student and staff exchanges with institutions abroad. The University has set up more than 450 exchange agreements with universities throughout the world. We also continue collaborating with the ERASMUS program for promoting European mobility of our students. In response to our efforts, we increased the number of UC3M students going abroad from 361 in 2007/08 to 510 in 2009/10; while we welcomed 410 exchange students in 2007/08 and 652 in 2009/10.

Finally, our international strategy must be supported by appropriate infrastructures, services, and administrative staff. To facilitate exchange procedures, the University created the International Reception Office (for faculty) and the International Recruitment Office (for students). The University Language Centre offers the possibility of learning different languages such as Spanish, English, Chinese, German, French and Japanese. We equipped two new spaces in our libraries for language self-study. For incoming students and faculty, the University offers the Hispanic Studies Course in collaboration with nine prestigious US Universities. In the last few years, the number of North American students enrolled in the course has numbered more than 300 each year.

Internationalization

Aims

In order to achieve a higher degree of internationalization at CCIII, we must:

- Foster the international profile and reputation of the University
- Promote learning, research and knowledge exchange between our University and the rest of the world
- Develop a strong international focus and awareness in our faculty and administrative staff
- Promote and support the presence of our faculty in international organizations and decision-making committees

Strategies

Our strategies for reaching these objectives are based on:

- Promoting the Campus internationally in order to increase student and faculty exchanges
- Developing the CCIII international communication plan
- Giving support to foreign students and researchers by promoting and facilitating their reception

- Promoting the exchange of students, faculty and administrative staff
- Fostering the relationship of the Campus with other international institutions at both the undergraduate and graduate level



5.3. Interdisciplinary approach

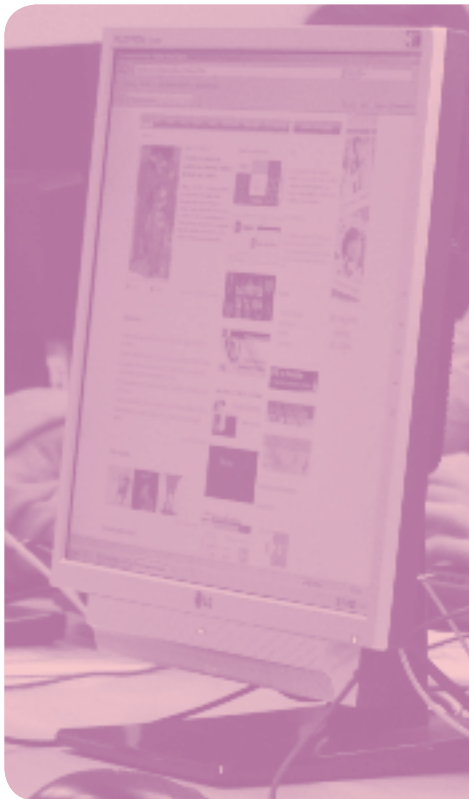
The aim of CCIII is to become an international reference for innovative interdisciplinary research and education. Interdisciplinarity seeks, through organizational flexibility, to move from the traditional paradigm, based on disciplines and rigid curricula, to a new one based on flexible and interdisciplinary curricula. By promoting interdisciplinarity, we aim to create innovative educational programs with a high degree of societal relevance and research teams oriented to important societal problems.

Current situation

CCIII is committed to promote interdisciplinary education, research, and knowledge transmission. In our commitment to this kind of broad education, we have developed two lines of action: first, to increase our offer of bachelors' degrees with interdisciplinary training and second, to offer courses aimed at fostering common skills.

This interdisciplinary approach plays a key role in improving our graduates' employability. For this reason, we have promoted two types of interdisciplinary studies: dual bachelor's degrees and bachelor's degree with a minor. To date, we have launched six dual degrees and three degrees with a specialization, all of which are adapted to the European Higher Education Area. This kind of interdisciplinary curriculum is highly demanded by students and has the highest admissions score. Our dual bachelor's degrees have a minimum duration of five to six years of intense course work, after which students graduate with two degrees: Law and Business Administration; Law and Economics; Law and Political Science; Political Science and Sociology; Computer Science and Business Administration; and Journalism and Media





Studies. Our bachelor's degrees with a minor provide a complementary education in other fields such as Business Administration with a minor in Media Studies; Economics with a minor in Journalism; and Law with a minor in Journalism.

Regarding the second line of action, the adaptation of our degrees to the EHEA has increased the subjects related to student skills. All our bachelor's degrees contain courses on Information Skills, Writing and Communication Skills, and Humanities. Last, the University encourages students to complete their degree with electives from other areas of study, for which they receive a special mention in the SET (European Diploma Supplement).

Our promotion of interdisciplinary teaching is not restricted to bachelor's degrees but to our entire educational offer. We also promote interdisciplinary masters and PhD programs.

In our commitment to interdisciplinary research, the University facilitates cooperation between different departments, research institutes and research groups. The Institutes are formed by researchers from at least two different Departments and have a minimum critical mass of 12 permanent PhDs. Several of the Institutes offer multidisciplinary master programs.

Our Scientific Park was promoted with the aim of favoring the creation of interdisciplinary research centers which aggregate different research streams. An outstanding example of this type of interdisciplinary research group is the Center for Global Change, promoted in collaboration with a government agency, the CSIC (National Research Council) to join strengths of the University and the CSIC in different research areas from renewable energy to changes in migration flows due to climate change.



Interdisciplinary approach

Aims

In order to achieve a higher degree of interdisciplinarity, CCIII must:

- Continue to enhance the offer of interdisciplinary graduate degrees and subjects in addition to maintaining the successful undergraduate programs
- Strengthen the connections among disciplines
- Promote the creation of interdisciplinary research groups among academicians as well as between academicians and external agents (through the Scientific Park and the Spanish Technology Platforms)

Strategies

Our strategies for reaching these objectives are based on:

- Supporting operation and coordination of interdisciplinary courses and programs
- Identifying resources to support the operation and coordination of interdisciplinary courses and programs
- Creating University-wide structures that coordinate program development across academic divisions to stimulate interdisciplinary teaching and research in key areas
- Coordinating our faculty hiring in interdisciplinary areas, including the strategic hiring of senior faculty to lead the development of research and teaching in these fields
- Encouraging students to take extra credits to complement their degrees in all areas of knowledge, because this creates more well-rounded graduates in addition to giving them an edge in the job market
- Providing financial incentives to stimulate the interaction between different departments, institutes and research groups
- Increasing the number of research managers for assisting research groups that belong to different areas



5.4. Innovation and quality

Constant innovation in teaching, research and management is a key element for the continuous quality improvement at UC3M. For that reason, the University has developed plans, actions and support procedures to promote continuous improvement.



Current situation

The culture of evaluation and quality is deeply rooted at UC3M. In the 90s, we created a University Quality Committee (UQC), which was directly under Rector's supervision. This committee was responsible for the evaluation of UC3M studies and our departments. Both internal and external committees participated in these evaluations. These committees followed a rigorous and systematic program of hearings with all the sectors involved either in the teaching program or in the department research. The University created specific protocols for the systematization of these procedures.

Currently, UC3M has developed new plans and systems. First, the University received approval for SGIC_UC3M, an Internal Quality Assurance System certified by ANECA (National Agency for Quality Assessment and Accreditation), within the framework of the AUDIT program. SGIC_UC3M establishes how the University structures, regulation, criteria and procedures should be used in order to improve the quality of the degrees, the planning and the development or the learning results. SGIC-UC3M is running in all the official programs, only four public universities in Spain have implemented this educational quality assurance system on all their campuses. The leading organization in our quality process is the UQC, which supervises and promotes quality improvement actions in all areas of the University. In particular, all teaching activity at the University is subject to Teaching Satisfaction Surveys (TSS) by means of a totally computerized procedure. Thirty Academic Commissions are working this year to monitor the learning process in the new degrees and a specific report for each degree is being developed.

UC3M also obtained DOCENTIA, a program that evaluates quality of our professors. This program was elaborated jointly with the national, regional and international agencies (ENQA among others) whose primary functions are evaluation, certification and accreditation of the quality of the Universities. The model requires using different sources of information such as TSS, reports from school



authorities and a self-evaluation report from professors, among others. Only 30% of universities in Spain receive a favorable report within this program.

Regarding quality and innovation in the learning process, UC3M obtained the VERIFICA program for all the bachelor's degrees in the European Higher Education Area (EHEA). The VERIFICA program involves developing study programs including planning, resources and quality assurance procedures that are carried out using SGIC-UC3M. Moreover, the University supports annual plans of Innovation in Teaching. Furthermore, according to the report prepared by ANECA in 2008, UC3M occupies the second position among the Spanish universities in terms of the percentage of Doctorate programs that have obtained a quality award.

The innovation and quality in research is measured through a program of individual performance bonus for its full-time doctors based on public and objective criteria related to their research productivity (six year research evaluations - "sexenios" - or research complements, competitive research projects and supervised PhD Theses), their publications and the quality of their teaching. Additionally, the University has established evaluation procedures to pave the way for increasing the quality of its own centers and institutes.

Evaluation of the quality of its services is also a main concern in the University. To achieve this, there are annual plans for continuous improvement of the management.

Improvement groups have been in existence since 1994 and EFQM evaluation in the Administration units since 1996. Last, there is annual planning for quality improvement projects and the start-up of new services.

The University has already implemented evaluations of its departments, undergraduate and postgraduate studies, services and faculty. Moreover, it intends to continue in this direction. Thus it is necessary to monitor the follow-through closely in order to know how the different improvement actions proposed have been carried out. A major means of achieving this is encouraging the departments to accept their responsibilities in the pursuit of the goal of excellence, rewarding their achievements and supporting them in the efforts of self-improvement.

Our goal for the next years, in accordance with the quality standards, is the international accreditation of the University. Worldwide accreditation of our studies and activities ensured by peer-reviewed procedures is of utmost importance but this procedure has, however, just begun.



Innovation and quality

Aims

In order to achieve excellence in innovation and quality at CCIII, we must:

- Establish and internalize a culture of effort and quality
- Reach the quality levels of the best universities
- Ensure that our services are designed to best satisfy the needs of society
- Raise the quality of undergraduate and postgraduate teaching

Strategies

Our strategies for reaching these objectives are based on:

- Continuing with the definition and execution of the necessary evaluation procedures
- Encouraging and supporting the quality and innovation among our faculty
- Extending the programs for supporting innovative teaching, which constitute a stimulus and support to the innovation of our teachers
- Promoting the accreditation of the University by the most recognized institutions



5.5. Fundraising

All strategic dimensions proposed in this report require additional resources that must be generated from both public and private sources. Thus fundraising is an overall strategic theme in order to make possible all the new projects considered in this plan.

Current position

In order to be able to carry out all of its activities at the same level as top research universities in Europe, Campus Carlos III must have similar economic resources. The gap today is very large: the university budget is about one half of that of leading European universities of similar size. Thus in order to compete internationally we need to increase both the public and private resources available for these activities. As it is unrealistic to assume that public funding is going to increase by 50% in the next four years, an effort must be made to generate additional funding from private sources. For this reason, CCIII must develop a fundraising program through different conduits.

Additional resources from the public sector could be obtained by promoting studies and research through a comparison of both the teaching and research output and the financial situation of leading public Spanish universities with respect to similar institutions in Europe. We need to create awareness of the need for additional resources, based on results, for public universities with the best teaching and research results. Society should understand the need for two different sources of revenue for public universities: basic financing, coming from the local Government to cover an average standard of activities, and advanced financing, based on high quality objective indicators of teaching and research. The Campus of Excellence initiative promoted by the Spanish Government is an example of this advanced financing model, although the resources allocated to this program should be increased.

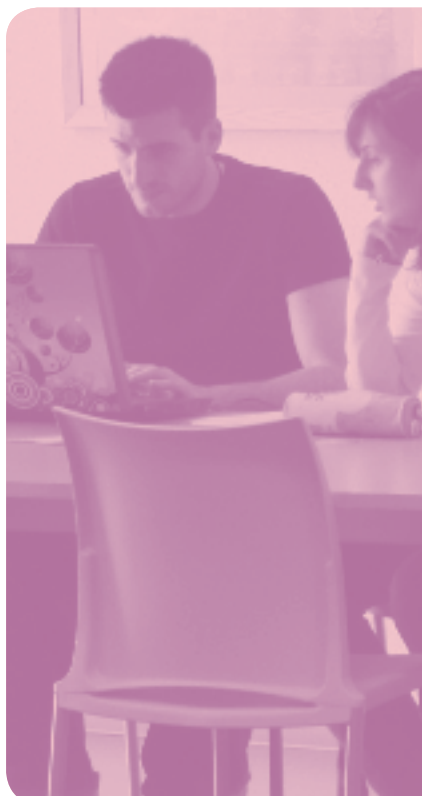


In the present financial situation, private funding is needed and the University must develop policies to increase this source. Companies constitute the first pillar of private fundraising. Those companies related to the University, either through research or Executive Education, can provide economic support to the University, for example, by endowing Research Chairs. Several firms already contribute to this activity, such as Banco Santander, Caja Madrid, ALTADIS, El Corte Inglés through the Ramón Areces Foundation, Red Eléctrica de España, ADIF, Telefónica, and others. In particular Banco Santander and UC3M have created the UC3M-Banco Santander Chairs of Excellence for the period 2007-2010. These Chairs are aimed at funding the stays of 10 renowned researchers for one year (or 20 for six months) with an assignment of 120,000 euros (60,000 for six month stays). Many other ways of philanthropic help should be explored.

University tuition fees from non-Spanish students represent the second pillar of fundraising. We need to establish differential tuition fees to cover the cost of the

teaching for foreign students, together with a system of grants so that economic resources do not become a source of discrimination for university students.

UC3M graduates comprise a third potential pillar. They are our global ambassadors and their contribution is formally embodied in the Alumni Association (AA) which will play an important consultative and advisory role in University governance. The first UC3M Alumni meeting was held in October 2009 and is expected to be the beginning of an additional source of funds.



Fundraising

Aims

In order to achieve excellence in innovation and quality at CCIII, we must:

- Build a more informed and engaged community of support to increase Government funding of public Universities based on their comparative performance
- Create or maintain long-term partnerships and fruitful relationships with a selected group of important firms
- Introduce differential tuition fees for foreign students
- Create long-term relationships with Alumni and their families

Strategies

Our strategies for reaching these objectives are based on:

- Creating the channels to communicate and interact with all the stakeholders of the University: Alumni Association, AA families, Governments (Local, Regional and National), individuals and firms.
- Enhancing opportunities for our alumni to interact with us and with one another, face to face and online
- Developing, sustaining and creating (if necessary) long-life relationships with benefactors and other supporters by involving them in the Campus
- Offering the Alumni Association access to our facilities and discounted tuition rates for postgraduate study.







lines

6. STRATEGIC RESEARCH LINES

UC3M is organized into 26 departments and three Schools (Social Sciences and Law, which includes Economics, Business, Statistics, Law, Political Science and Sociology; Humanities, Media Studies and Library Science, which includes Humanities, Journalism, Audiovisual Communication, and Library Science; and Engineering, which includes Industrial, Computer Science and Telecommunications Engineering). In addition, there are 118 research groups whose research activity is framed within strategic actions and priority sectors of the 2008 R+D Spanish National Plan (Plan Nacional de I+D).

Next, we describe the main strategic areas of CCIII, along with the corresponding research lines in which the University presents recognized competence. The already consolidated research areas are:

- Economic Analysis of Growth, Technological and Business Change, and Sustainability.
- Industrial Technologies (Electrical and Mechanical Engineering, Materials Science and Aerospace).
- Information and Communication Technologies.
- Law in the Knowledge Society: Fundamental Rights, International, Environmental and Global Law.
- Mathematical and Statistical Methods for Forecasting and Decision Making in Social Sciences and Engineering.

The areas that are emerging or in a consolidation process are the following:

- Humanities in the 21st Century and their relationship with Information Technologies and Communications.

- Biomedical Engineering.

Some research lines attached to above-mentioned strategic lines are described below. More detailed information about research lines and groups at UC3M can be found on the following web page:

http://www.uc3m.es/portal/page/portal/investigacion/nuestros_investigadores/grupos_investigacion



a) Economic Analysis of Growth, Technological and Business Change, and Sustainability

Economics is one of the outstanding areas of research at UC3M. It is ranked in the world top 5% according to the 2009 REPEC (Research Papers in Economics) data basis of the University of Connecticut and is the first among 236 universities of Spain and Latin America according to the 2009 SCIMAGO ranking. This area is responsible for 9.7% of the overall Spanish publications and has obtained 12.41% overall citations, according to 2008 Web of Science data basis.

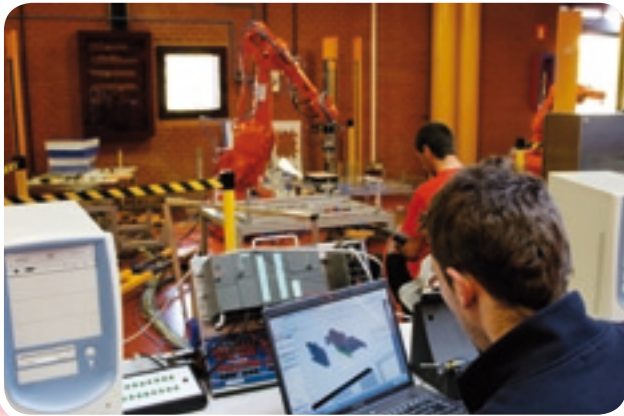
Research Lines

- Microeconomics: social networks; behavioral economics; experimental economics; auctions; contracts and incentives; corporate governance; public and welfare economics; political economy.
- Macroeconomics: monetary policy; consumption and savings; general equilibrium models with heterogeneous agents; international trade and regional development; growth and development; labor search.
- Econometrics: modeling for economic analysis with cross-sectional, time series and panel data; statistical inference methods for non-parametric and semi-parametric models; time series analysis (persistence, volatility, non-linearities, causality and forecasting).
- Applied Economics: privatization, regulation and competition; environmental economics; economics of health and medicine; immigration; income distribution and wealth.
- Firm growth. Innovation, productivity and sustainable development.
- Economics of technological change: innovation, absorptive capacity and firm performance; patents and R&D intensity; competitiveness and investment climate evaluation.
- Corporate social responsibility.
- New trends in risk measurement and management.
- Econometric modeling for the analysis of economic problems: consumption, industrial economics, international economy and finance.
- Forecasting methods: univariate and multivariate time series and econometrics.
- Economics of health and medicine.
- Political, public and welfare economics.
- Convergence and growth patterns in the 19th and 20th centuries. Protectionism; comparative advantage: growth in Southern Europe and Latin America. Monetary history of Latin America.
- The foreign sector and European peripheral economies growth.
- Spanish national accounting in a historical perspective.
- Sociology and the environment. Gender and family sociology. Social movements.



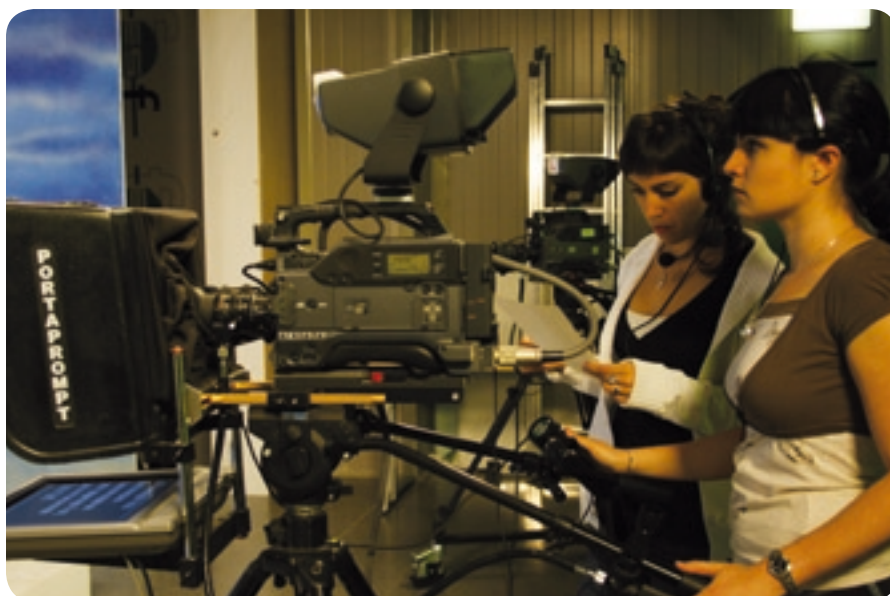
b) Industrial Technologies (Electrical and Mechanical Engineering, Materials Science and Aerospace)

The Industrial Technologies area includes the traditional engineering disciplines. It ranks 2nd in Spain in Engineering & Architecture according to the S index - relative "sexenios"- (CNEAI, National Commission for the Evaluation of Research Activity, 2009 report). The area is leader in National Research Program (NRP) projects with funding of 14.7M during the last four years. According to COTEC (Foundation for Technological Innovation) 2006 report, it ranks first in Spain in the success rate in this project's calls.



Research Lines

- Renewable energy and its integration in electricity markets.
- Magnetic and magnetomechanical levitation and superconducting levitation.
- Jets, waves and biofluids.
- Vehicle engineering and technology for safe and secure driving.
- Structural alloys for fusion devices.
- Nanostructured alloys: microstructural characterization and properties.
- Luminiscence spectroscopy applied to polymers, composites and nano-composites. Thermostable hybrid polymers and mixed polymers.
- Structures for energy absorption in collisions and hits. Impact engineering and crashworthiness.
- Development of advanced power systems.
- Service robotics applications: assistance, infrastructures maintenance, surveillance, hazardous environments management.
- Preventive aircraft maintenance and Integrated Vehicle Health Monitoring (IVHM).
- Development of unmanned aerial vehicle (UAV; also known as a remotely operated aircraft).
- Automatic systems flight reporting and docking.
- Multispectral IR sensors for evaluating aircrafts.
- High stiffness materials and materials for high temperature applications for aerospace and aeronautics.



c) Information and Communication Technologies

The ICT area leads the technology transfer field in the University. It participates in the EU 7th Framework Program, being among the top 10 Spanish institutions (including universities and companies) according the CDTI (Center for the Development of Industrial Technology -Ministry of Science and Innovation) 2008 report. The three Departments of the ICT area obtained 11M worth of research grants in 2008, increasing by 34.9% during the last year.

Research Lines

- Internet architectures, communications protocols, overlay nets, mobile nets.
- Data analysis, grid environment, middleware architectures for Wireless Sensor Networks and other built-in systems. High reliability computing. Distributed systems.
- Telemedicine. e-Learning. Business information systems. Emergency management technologies. Web 2.0 and 3.0. ITC for security, health and communications.
- Cryptographic algorithms and protocols. Biometrics: security and accessibility, personal data protection.
- Automatic learning. Machine learning. Automatic learning applied to automatic planification. Neural networks. Automatic learning and evolutionary computation.
- HCI. Visual languages. Web Engineering. Advanced user interfaces. Multimedia processing.
- Information and communication technology project management, project management and software management.
- Digital circuit design with hardware description languages, high performance analogical-digital converter design, calculus process to hardware acceleration.
- Optical communication systems, laser technology applications.
- Techniques and advanced systems for communications. Design of antenna, arrays of antenna and intelligent antenna.
- Signal and images processing. Advanced techniques of adaptive processing of signals.

d) Law in the Knowledge Society: Fundamental Rights. International, Environmental and Global Law

Law is one of the most consolidated areas in the university. It coordinates the only Spanish CONSOLIDER singular macro project in the field of Law, lasting for five years. The research Institute "Bartolomé de la Casas", established in 1999, was the first national institute in the subject of human rights and maintains its national leadership. The UC3M Law area ranks 4th in Spain according to S index.

Research Lines

- Fundamental rights. Human rights.
- Urban/land planning, town planning and environment.
- Telecommunications and information technologies law.
- Public policies related with leisure and entertainment.
- Risk analysis, management and evaluation of public policies.
- The Public Administration and European Union. Spanish and European foreign policies.
- International taxation in a global scenario.
- Economic Public Law. Law and international economic relations.
- Sociology of law. Political history and philosophy.
- Civil and labor law.

e) Mathematical and Statistical Methods for Forecasting and Decision Making in Social Science and Engineering

Statistics and Mathematics lead both in basic and applied research. It ranks first in Spain according to the S index. Moreover, the Department of Statistics is among the top 15 in continental Europe (TEST, 2000).

Research Lines

- Approximation theory.
- Numeric linear algebra.
- Complex systems.
- Polynomial methods for forecasting linear models.
- ADN Biophysics. Evolution and its dynamics.
- Stock exchange structure. Social networks and information disclosure.





- Heterogeneity in statistical models and model selection. Dimension reduction techniques. Resampling methods.
- Processing high dimension data statistical problems. Data mining.
- Vector Macroeconomic methodology for economic aggregated components. Intensive computation.
- Economic forecasting and risk modeling.
- Stochastic and dynamic optimization with mathematical programming methodology. Stochastic programming. Nonlinear optimization in large dimension problems.

f) Humanities in the 21st Century and their relationship with Information Technologies and Communications

The area of Humanities covers a wide range of knowledge fields and is in the consolidation stage. The number of publications in Humanities has increased by 254% in the last 4 years according to the University 2008 Research Report. It has 5 interdisciplinary research Institutes pioneering in fields like Library Science and Audiovisual Communications. According to Spanish newspaper "El Mundo" 2008 ranking, the master in "Cultural management" is ranked in the top 3.



Research Lines

- Cyberanthropology. Culture and technology. Literature and cyberculture.
- Culture management. Emergent tourism. Cultural heritage and museumology.
- Society and violence in the contemporary world.
- Theory of literature and visual arts. Theory of culture, knowledge and communication.
- Ideology and historical development in Twenty Century Spain.
- Geographical studies: territory, landscape and culture.
- Internet journalism: new contents, styles and professional frameworks.
- Information, formation and entertainment. Educational TV and childhood.
- Development of systems that improve media accessibility for the disabled.
- Interactive TV.
- Economic aspects of TV. TV audiences.

g) Biomedical Engineering

The Biomedical area is an emerging area. Nevertheless, several engineering research groups are working in this frontier area with a multidisciplinary approach. Citations of UC3M papers in the field of "Clinical Medicine" of the Thomson's Web of Science is 7.16, the Spanish average being 6.96. The UC3M has been a pioneer in EU projects in the field of assistive robots and technologies (5th Framework Program).

Research Lines

- Medical instrumentation. Telemedicine and welfare technologies.
- Medical image. Diffuse optical tomography. Inverse problems.
- Computational biology. Automatic learning and evolutionary computation. Bioinformatics and biostatistics.
- Biomaterials.

- Tissue engineering and regenerative medicine.
- Robotics bioengineering and nano-devices for human body exploration.
- New immune-compatible actuators based on artificial muscles.
- Improving life quality of disabled persons through welfare systems and robots.







7. CONCLUSIONS

Campus Carlos III is the aggregation of different institutions led by Universidad Carlos III de Madrid in order to develop a sustainable interurban campus located in the Madrid Region (Comunidad de Madrid). The aim of the aggregation is international excellence in research, knowledge transfer and teaching at the level of the top European universities in the fields of Social Sciences, Engineering and Humanities. At the core of this aggregation is Universidad Carlos III de Madrid, a young University with a strong vocation to become a University of reference in Spain, and to achieve a level of excellence comparable to the best European Universities.



The strategic lines of action of CCIII correspond to the following areas:

Consolidated:

- Economic Analysis of Growth, Technological and Business Change, and Sustainability
- Industrial Technologies (Electrical and Mechanical Engineering, Materials Science and Aerospace)
- Information and Communications Technologies
- Law in the knowledge society: fundamental rights, international law and environmental law
- Mathematical and statistical methods for forecasting and decision making in Social Science and Engineering

Emerging or consolidating:

- Humanities in the 21st century and their relationship with Technologies and Communications
- Biomedical engineering





The principle aims of Campus Carlos III are:

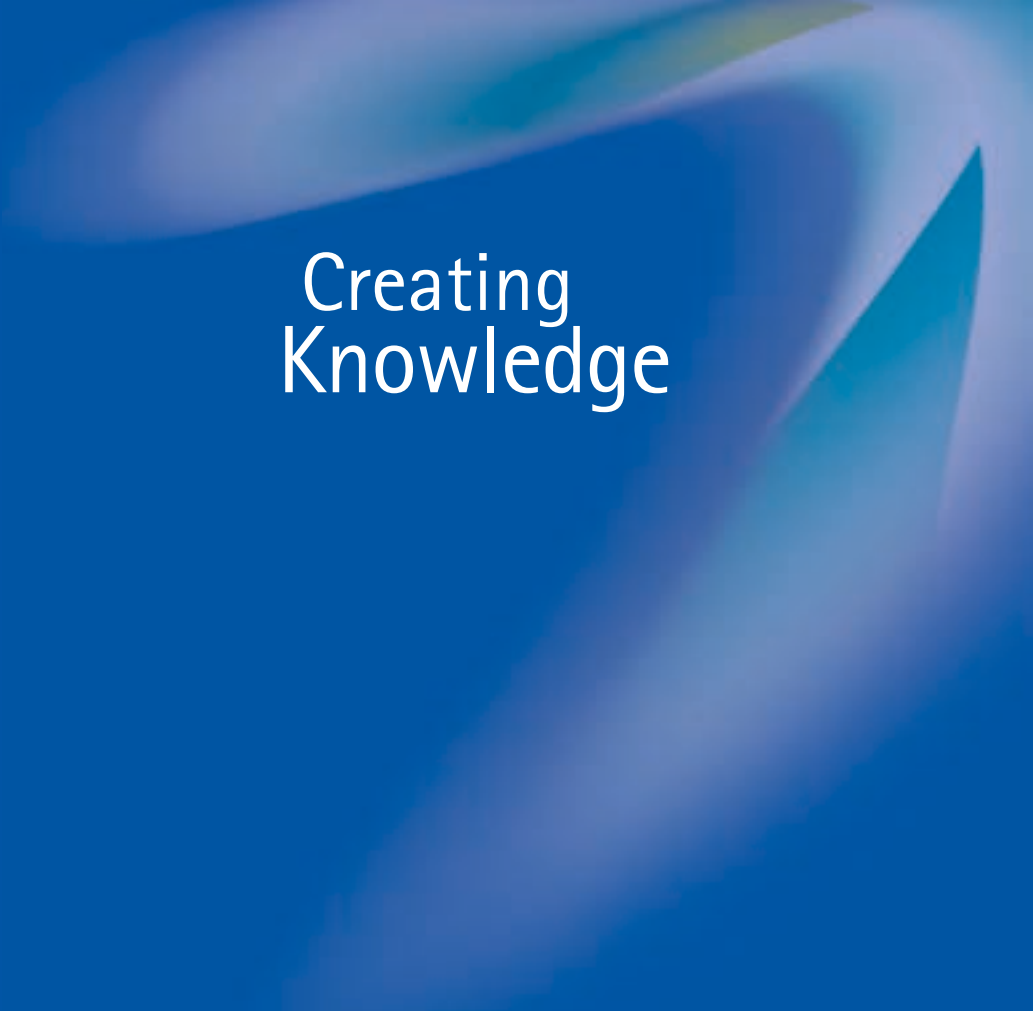
- I) Promotion of postgraduate studies, increasing number of students from 13% to 20%.
- II) Increase Campus Carlos III housing, doubling residential capacity in Getafe.
- III) Increase knowledge transfer capacity, developing 2nd phase of Leganés Scientific Park.
- IV) Increase research capacity of university as a whole. The strategic lines will promote interdisciplinary research.
- V) Promote creation of interurban, sustainable Campus as an energizing force in surrounding area in the Comunidad de Madrid.
- VI) Culmination of adaptation of Campus Carlos III to needs of the European Higher Education Area.

The specific actions to be carried out to achieve CCIII objectives are:

- I) New building for the Postgraduate Center.
- II) New Student Residence Hall.
- III) Development of 2nd phase of Scientific Park.
- IV) Recruitment of international professors of excellence and the creation of new infrastructures.
- V) Adaptation of Campus for sustainable development and accessibility.
- VI) Modification of Campus infrastructures to adapt them to the European Higher Education Area model.

Campus Carlos III, and in particular the University Carlos III de Madrid, value this call as an opportunity to continue their search for excellence, most particularly by using the recognition associated with a successful candidacy to improve our opportunities to recruit highly qualified personnel and our ability to attract additional funding from public and private sources.





Creating
Knowledge

Campus Carlos III