

Study Visit Report

University of Cambridge

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1. University of Cambridge: a short overview

The University of Cambridge, as it is very well known, is one of the oldest and best universities in the world. It is organised into 31 independent Colleges that offer courses and student accommodation.

There are six ‘Schools’, which indicate administrative grouping of related subjects: Arts and Humanities; Biological Science (including Veterinary Medicine); Clinical Medicine; Humanities and Social Sciences; Physical Sciences; and Technology. In addition to these, there are six institutions, known as ‘non-schools institutions’, which are independent of any school, and they are: Centre for Applied Research in Educational Technology; Centre for Business Research (ESRC); Centre of Islamic Studies; Institute of Continuing Education; University Computing Science; University Library.

Teaching and research are organised by Faculties. Faculty Boards are responsible to the General Board. Departments are considered organisational sub-structures of Faculties that have historical or operational reasons to exist. Administratively, work of a large Faculty is divided into separate Departments.

In January 2011, the students enrolled at Cambridge were 18,306, of whom 12,102 were undergraduates and 3,361 were non-UK/EU students. The Staff was composed of 9,110 employees, of whom: 2,957 academics; 2,968 contract researchers; 1,165 technical staff; and 1,531 clerical and secretarial staff. The University total income for the year 2010 was £745,341,000 (27,5% HEFCE and TDA grants; 35,8% Research Grants and Contracts; 13,7% Fee Income; 6,0% Endowment and Investment Income); while the total expenditure for the same year reached £736,319,000 (55,0% Staff Costs; 37,9% Other Operating Expenses; 7,1% Depreciation).

Institutions visited:

- **Cambridge Programme for Sustainability Leadership** (Social Engagement and Continuing Education);
- **The Institute for Manufacturing** (Technology Transfer and Innovation, and Continuing Education);
- **Institute of Continuing Education** (Continuing Education);
- **Cambridge Research Office** (Technology Transfer and Innovation);
- **Cambridge Enterprise Limited** (Technology Transfer and Innovation);
- **Cambridge Public Engagement Office** (Social Engagement).

Cambridge Programme for Sustainability Leadership (CPSL)

Person met during the study visit:

- *Mike Peirce*: Editor of the State of Sustainability Leadership, and Director of Strategy and Communications at the Cambridge Programme for Sustainability Leadership.

Description of the Institution visited

Cambridge Programme for Sustainability Leadership (CPSL) is an institution within the School of Technology, which is part of the University of Cambridge. In its board there are representatives of the same School that has an elected supervisory board. The Departments of the School are the following: Engineering; Chemical Engineering and Biotechnology; Computer Laboratory; Judge Business School; and Cambridge Programme for Sustainability Leadership.

CPSL works in close collaboration with individual academics and other departments of the University. Its staff is made up of over 40 employees, with some of them based in Brussels, Cape Town and Melbourne. They are mostly practitioners who gained experience by playing advocacy and advisory roles in different firms, and who revealed their quality of ‘great facilitators’. This quality is consistent with the basic purpose the Programme is carrying on, that is to create spaces for discussion.

The Programme has created a network that already counts about 4,000 alumni. They are involved as much as possible in several projects, and every year a number of events is organised for them, mostly in London. In addition, a newsletter has been created as well as a website and a series of publications devoted to examples of the best practices.

CPSL official Patron is HRH The Prince of Wales. Thanks to His support, the former Cambridge Programme for Industry, which was created about 17 years ago in order to provide courses on technological transformation to industries and companies, shifted its main target towards raising diffuse awareness of growing risks in different domains, like climate change, among the leaderships in business, government and civil society.

A clear-cut definition of the Programme’s purposes states: *“CPSL considers the task of creating a more just and sustainable world as both a serious challenge and a great opportunity. We are convinced that without bold and effective leadership – at a political, institutional and individual level – we will fail to solve our most serious social and environmental crises.”*

The Programme is fully supported by external funds since the University of Cambridge does not demand a return whatsoever. The largest percentage of the support (75-80%) comes from services provided by customers, plus fees from participants, and companies that became partners of different strategic programmes or promoted customised activities. CPSL has a management board in charge of the Programme strategy, while the

University exercises a control over the Programme training activities through the recently created Board of Executive and Professional Education.

CPSL neither provides undergraduate teaching nor carries out academic research. Instead, it aims to make different social environments aware of the fact that “*our current model of development has serious consequences for the very ecosystem that must sustain it*”. This aim is not pursued by providing technical education on what sustainability is in different sectors; rather, it is pursued by finding people who can be interested in environmental matters, and by drawing them together with experts and those influential individuals within their sector.

Experts can be senior university members as well as people having an external expertise. They will meet leaders from different economic and political sectors in a space provided by the Programme. The purpose is to create a place for discussion on problems that cannot be solved by individuals on their own.

In addition, CPSL offers several training opportunities such as Master level programmes in sustainability leadership focused on middle management as well as a number of customised programmes structured in 2-5 day short courses. A number of companies and institutes, both public and private (i.e. Nestlé, Coca-Cola, the World Bank) have already taken part in these activities.

The effort to raise new awareness among members of economic and political élites takes an international dimension, which is mainly represented by the non-British branches in Africa and Australia. The specific intent to address élites has been revealed by the participation of political leaders, such as Tony Blair, David Cameron and Gordon Brown, to the conferences organised in London.

Description of the Best Practices and of the most successful projects

CPSL main activities are organised through the *Executive Programmes* and the *Accredited Programmes*. There are also the *Customised Programmes*, as a series of workshops and roundtables that are included in the *Collaboratories*.

(i) Under the title of *Executive Programmes* the CPSL organises a number of seminars for executives with the aim of bringing together leading thinkers and combining world-class faculty with members of policy and practitioner circles. The seminars are based on collaborative learning so that learners can benefit from others’ experience. The purpose is to equip learners with insights to report to their organisations in order to develop individual solutions. The main activated Programmes are the following:

- The Prince of Wales’s **Business & Sustainability Programme (BPS)** runs annual seminars in six locations around the world and supports an influential network of 1,500 leaders. The Senior Executive Seminars provide an opportunity for senior decision-makers to reflect deeply with their peers about the strategic implications of major emerging environmental and social trends. Seminars draw

delegates from over 40 countries and are held annually in the UK, continental Europe, South Africa, Australia and the US. The main theme of every three-day Seminar is ‘managing change in turbulent times’, which includes the effort of understanding global trends, and the social and environmental risks and opportunities that are implied.

- **Climate Leadership Programme (CLP)** is designed for senior sustainability professionals and leaders from business and the public sector who have responsibility relating to climate, energy, resources and procurement. It is time for many organisations operating in those fields to anticipate market shifts and influence their respective spheres of action taking into consideration the increasing climate-change legislation, the opportunities offered by ‘green’ investment, and the drive towards new sustainable technologies.
- **Sustainability Leadership in the Built Environment Programme** aims to bring together academics and practitioners in seminars so as to let them examine the global system pressures and trends related to specific implications, challenges and opportunities for those working in the built environment. The assumption behind this Programme is that buildings have a significant impact on the environment holding a 43% of the total carbon emission in the UK.
- **Sustainability Leadership Programme for the Health Care Sector** organises seminars in order to help participants to develop strategic responses to the challenges faced by the health care sector due to climate change and resource depletion. In this case, the assumption is that better models of patient care can empower the same patients and the public by offering real incentives to promote health and prevent illness, bringing direct cost savings, and building resilience into all aspects of the health sector.
- **Sustainability East Leadership Programme** has been designed specifically for local government in the East of England. It operates through a combination of high-profile speakers, practical sessions and working groups with the intent to inspire senior local government professionals to embed sustainability into the management and service delivery of the organisation, and provide practical tools and skills to support this.

The Programme is tailored to provide local authority decision-makers with ideas, support and practical tools to develop leadership for sustainability at local level and implement climate change solutions.

- **Cambridge Sustainability Practitioner Programme** has the purpose through workshops to equip participants with a high-level understanding of sustainability as well as with some practical approaches to understanding critical social and environmental pressures, assessing their impact on organisations, developing systems for responding creatively to them, and integrating these systems into their organisation’s operations and strategy.

(ii) The *Accredited Sustainability Leadership Programmes* represent learning activities mostly related to the main topics of the Programme. Programmes at master level are accredited by the University of Cambridge. They are designed to build the capacity of mid-career and senior managers and professionals to bring about positive change for sustainability within their organisations.

- **Master of Studies in Sustainability Leadership** is an accredited University of Cambridge postgraduate degree delivered on a part-time basis over two years in order to allow full-time employed persons to participate. It is an interdisciplinary Master offered in association with the Departments of Architecture, Engineering, Geography, Land Economy and the Judge Business School.
- **Postgraduate Certificate in Sustainability Business (PCSB)** is a Master-level programme designed to help senior and mid-career managers to develop corporate strategies to embed the principles of sustainability into their organisations and to identify the opportunities for sustainable business practice. This Programme lasts six months on a part-time basis.

(iii) *Customised Programmes* are designed to enhance performance of leading businesses and public institutions in their approach to sustainability. These programmes can help clients: (a) to raise internal awareness of key social, environmental and economic trends affecting the organisation and increase understanding of their related challenges and opportunities; (b) to inspire and engage senior leaders; (c) to explore and work through sustainability challenges or dilemmas; (d) to test strategic thinking on sustainability.

Seminars range from 1-2 day to week-long ones and include linked workshops that allow delegates to reflect on what has been learnt or to take some practical steps between workshops towards devising or implementing a sustainable strategy.

CPSL has worked in a broad range of sectors with government leaders and companies from many different geographies, including Europe, Africa, North and South America, and China.

(iv) The *Collaboratories* ('collaborative laboratories') are time-bound problem-solving groups, which focus on particular sustainability challenges, such as food security, water scarcity, energy demand, or business issues like valuation, risk, standards, and sourcing, with a view to finding solutions to problems. Collaborative enquiry and action lie at the heart of the solutions-finding process, and hence are central to CPSL's support for business.

- **Cambridge Natural Capital Leaders Platform** is a business-led programme that has been set up in 2010 as part of the Cambridge Natural Capital Programme with 20 influential companies. The Platform addresses the impact of ecosystems and natural capital loss, and degradation on business, to their customers and wider society, mainly by triggering significant changes in the business response to

protecting ecosystems and natural capital globally in order to deliver quality and sustainable lifestyles.

- **Cities and Urbanisation** is the Sustainable Cities Programme, which provides a forum (workshops) for companies and key urban decision-makers in the UK and South Africa to share learning and explore new ideas for overcoming barriers. The aim of this Programme is to shape the growth of cities so as to address global problems, such as the scale and speed of climate change, energy security, pollution, environmental degradation, as well as recession and a variety of growing social pressures.
- **Cambridge Sustainability Network (CSN)** includes over 4,000 alumni and all those who have participated to one of the CPSL's programmes or seminars. CSN is an international network of sustainability leaders involving decision-makers in business, the public sector and civil society. The network is increasingly playing a role of consultative forum for policy makers and other decision-makers around the world. Seminars are organised by CSN in different parts of the world. In 2011-2012 there will be seminars in Brussels, Cape Town, Sydney, Atlanta and Cambridge (UK).

How to measure and evaluate Third Mission activities?

With respect to E3M Indicators, these can be related only to training courses. The examples previously provided seem acceptable and somehow standardised considering the difficulties faced to evaluate qualitative aspects. Reservations can be raised when referring to the degree of students satisfaction and their awareness of the actual purposes of the followed courses (e.g. to create changes).

Institute for Manufacturing (IfM)

People met during the study visit:

- *Sir Mike Gregory*, Head of the Institute for Manufacturing;
- *Peter Templeton*, Chief Executive Officer.

Description of the Institute visited

The Institute for Manufacturing (IfM) is one of the six Divisions of the Department of Engineering where about 200 people work. In addition, there is a Company earned by the University of Cambridge that engages further 40 people, of whom 20 are consultants. A Memorandum links the Company to the University. IfM staff is made up of experts who come from the fields of Engineering, Economics and Management.

In 2003, IfM activities produced revenues of about £250,000, which grew to £2,8 millions in 2010 (including only a flat result on revenues between 2008 and 2009). In 2008-2009, IfM activities have resented from the general economic and financial crisis, particularly due to the reduction of government and companies spending; however, in 2010, there has been a substantial recovery that is still acknowledgeable at the present time.

The University benefits from IfM activities in several ways: (i) from the values of research whose results have been applied by the Institute; (ii) the advantages of learning from the application of research projects; (iii) from the evaluation of Research Assessment Exercise (RAE), which measures the universities funding and consultancy activities.

The University Pro-Vice Chancellor has increasingly acknowledged the relevance of the Institute activities. Indeed, instead of focusing on a specific area, the Institute addresses the whole life cycle of manufacturing from understanding markets and technologies, through personal policy design to supply, production and distribution through life service within an economic and a policy context.

The Institute is a multidisciplinary academic environment with people working around the fields of management, technology and policy.

In terms of management, the focus is on strategies, performance measurement, international distribution of supply facilities, technology management, 'servitisation' (which means transformation of complex engineering business into service capabilities).

In terms of technology, the two main sectors are: (i) production technology; and (ii) distributed information and automation technology.

In terms of policy, the emphasis is on industrial innovation policy and on scenarios planning the future as long as they apply to manufacturing industries.

As for dissemination of knowledge, the Institute has a dedicated company named Item Education Consultancy Services through which it disseminates management and policy research to industries and governments.

In terms of education programmes, IfM provides three levels of activities:

- At undergraduate level, **Manufacturing Engineering Tripos (MET)** represents an option for the final two years of the University of Cambridge Engineering degree that develops and applies engineering knowledge to business. The course prepares students to be leaders of business and technology firms. The core of the programme consists in understanding how firms can grow sustainably.
- At post-graduate level, **MPhil in Industrial Systems, Manufacture and Management (ISMM)** is a nine-months programme designed to provide graduates with the technical skills, personal development and industrial experience they need to become effective in their early careers in industry. This is achieved through a series of short projects carried out during the time spent in industrial companies.
- As for the external education, there is a series of bespoke executive education courses articulated into (a) ‘Tailored programmes for companies’ to meet specific needs of their business, and (b) ‘Corporate development programmes’ where a team of industrial experts from the Institute can review specific business issues to construct a training needs analysis.

Among the key programme themes made available by IfM, there are the following: Strategy development; Strategic technology management; International manufacturing; Supply networks; Process, product and business infrastructure; Operational excellence; Innovation management; Service excellence.

A relevant number of companies, both national and multinational ones, have taken part in these programmes.

Description of the Best Practices and of the most successful projects

IfM is working with three broad size companies: (i) multinational companies; (ii) small and medium-sized manufacturing companies; (iii) early stage ventures. It also works with government agencies, such as the Department of Business Innovation Skills, the Department of Transport and the Department of Treasury, in order to help them understanding strategic themes and industries trajectories.

In terms of dissemination activities, the Institute has been running for 12 years a number between 70 and 100 of *Events Programmes* per year. It also disseminates research outputs through short courses, symposia and conferences.

In order to reach a better level of application of research outputs, two teams of associates were created by recruiting graduates from the University of Cambridge (mostly from the Engineering Department and the Master in Industrial Management), as

well as professionals from high profile companies with large experience in consultancy and management. At present, 12 people are working on an associate basis providing 80-120 days of activities per year in order to allow academics to understand research output and to make companies improve their strategic capabilities in key areas - as restructuring global networks strategy, strategy on innovation and technological management - or to help the same companies reallocate factories on the basis of access to resources and market.

(i) *Working with major multinational companies* as consultants. IfM has produced 15 large scale projects for industries to be realised in sectors like capital equipment, food, consumer goods, and chemical production. These projects emphasise the analysis of the different roles played by factories in low cost and high cost economy, as well as they stress the importance of coordination strategy between different factories.

Another activity worthy to be mentioned is the creation of road mapping and scenario planning work for firms and industrial sectors, as for the UK Technology Strategy Board, but also the Australian government. In fact, a road mapping for the automotive industry has been prepared in collaboration with Australian universities paying special attention to investment strategy and low carbon production. Road mapping activities have also been conceived for developing countries.

(ii) *Working with small & medium-sized manufacturing companies*. In this context, the goal set is to improve their productivity, to make them more business competitive, and to develop their key capacity through proper innovation. A similar initiative has also been experimented with companies in the public sector. About 700 SMS companies have been involved in a series of 4-5 day workshops for senior managers. These workshops were mostly devoted to action planning and ways to implement it considering external context and internal capabilities.

In general, the relationship between the Institute and the external world is mutual. In fact, either the Institute hosts events, like briefing days for industries and government agencies, or it establishes a direct connection, for instance, with small and middle-sized companies via development agencies, or simply using the application of research output.

(iii) *Working with early stage ventures*. There is a separate unit called Idea Space Enterprise Accelerator that is taking care of early stage ventures. The main purpose of this unit is to support development through enterprise life cycle. In practical terms, it means to look, first, at science, technology, and market opportunity; second, at what could be the business strategy; third, at the business planning pre-start-up; finally, at the launch of the firm looking at the venture scale quickly and effectively. Afterwards, it has to be checked whether the product has market attraction or not, and to follow all stages of the enterprise take-off. About 100 people are involved in this initiative and, even if it has existed for only one year, it has been very successful.

It is worth mentioning that the Institute has progressively demonstrated a strong interest for developing countries. This is the specific case of Trinidad where, in 2005, it has been created a post-graduate course in Industrial Innovation and Entrepreneurship Management in order to widen values and competitiveness of manufactory industries. In

the first year, 80% of the teachers used to be sent from the Institute, while in the second year, this percentage has been reduced to 50%, and, at present, it is limited to a number of mentors. Meanwhile, some graduates from Trinidad are studying management technology at a PhD level at the University of Cambridge. They will eventually go back home to become lecturers of that course.

IfM has also carried out a similar project called ‘Middle East Industrial Innovation Programme’ that is dedicated to countries, like Oman and Bahrain. The Project aims to: (i) create and sustain an industrial strategy able to help local industries to elaborate an individual road map; (ii) provide 1-2 week courses in order to train young leaders in industrial innovation and project management.

How to measure and evaluate Third Mission activities?

A number of suggested indicators are similar to those in use in the assessment exercise of the Higher Education Funding Council for England (HEFCE). A crucial point is that quantitative measures, like numbers of consultancy contracts in the case of IfM, are a useful tool to understand quantitative scale but do not give any indication of the impact the consultancy project had on firms. Therefore, consequences are not analysed. For what concerns technology advise, it may have a tactical or strategic benefit. Business strategic activities use to have a long run purpose with a feeble return in a short time; thus *“if a company decides to join the stock-market using the result of our consultancy project, how can we assess the project impact by analysing the stock-market reaction?”*

Pure numbers reflect characteristics and are helpful to understand scale, but there should be a way to identify the nature and the character of technology advise.

Institute of Continuing Education (ICE)

Person met during the study visit:

- *Rebecca Lingwood*, Director (by e-mail).

Description of the Institute visited

The Institute of Continuing Education (ICE) is one of the six Schools of the University of Cambridge. From the administrative point of view, it is considered as a full Department, therefore, it reports to the University General Board. ICE is the oldest continuing education university department with a foundation in the 1870s.

Its mission is “to enrich and transform lives and prospects with innovative programmes that inform and educate, making the experience of Cambridge learning available to all by:

- fostering a culture within which communication of the University’s research and scholarship to diverse audiences is held in the highest esteem;
- anticipating and responding, where appropriate, to educational needs regionally, nationally and internationally;
- providing flexibly-delivered, academically-challenging accredited and non-accredited programmes across the University’s disciplinary range for both personal and professional interests;
- offering part-time undergraduate, graduate and alumni programmes for global audiences and leading international institutions;
- developing e-learning resources and programmes to extend Cambridge’s distinctive approach to teaching and learning, and contributing to its knowledge-transfer activities” (ICE Director’s Report 2009-2010).

ICE has a self evaluation procedure, while the University of Cambridge has its review processes. As it is well known, the Higher Education Funding Council for England (HEFCE) provides external audits to the University and its component parts.

Description of the Best Practices and of the most successful projects

Certificate and Diploma Courses

The Institute offers a range of part-time courses leading to University of Cambridge awards at undergraduate and post-graduate level. These courses last one year and are non-modular ones.

Certificates are taught and assessed at first year undergraduate level. Certificate courses are given in the following subjects: Archaeology; Astronomy; Coaching; English Literature; Genetics; Historic Environment; History of Art; International Development; Principles and Practice of Assessment; Higher Education in Historic Building Conservation.

Diplomas are taught and assessed at second year undergraduate level. Diploma courses are offered for the following disciplines: Archaeology; Historic Environment; History of Art; Local History.

Advanced Diplomas are taught and assessed at third year undergraduate level. These courses include element of personal research for which individual guidance and supervision are given. The subjects investigated are: Archaeology; English Literature; Historic Environment; History of Art; Local History; Study of Religion.

Postgraduate Certificates are designated modules which allow to gain 60 credits from the Institute postgraduate programme taught and assessed at Master's level. The only available Postgraduate Certificate is in Professional Practice in Architecture. In the general area of legal studies, the Postgraduate Diploma in Notarial Practice is the most significant one among all programmes, both in terms of applications and attendance.

The *Master of Studies (MSt) degree* is a two-year degree obtained by part-time study thought for applicants having a good first degree or other evidence of capability to complete a Master's degree. The MSt is designed for individuals who are studying in addition to working full time and intend to develop their professional and academic interests for career progression or diversification, and/or personal development. Taught elements are broken down into discrete modules and research projects. Courses are offered on several subjects: Criminology and Police Management; Building History; Advanced Subject teaching; Construction Engineering; Historic Environment; International Relations; Local and Regional History. In 2010, a total of 11 MSt were offered.

ICE runs a number of committees to direct relevance to MSt development particularly with the aim of collaborating with the cognate faculties/departments related to the various subject matter.

International Programmes

Interdisciplinary Summer Schools last two weeks and cover a number of different subjects. In 2010, 1,232 students coming from 64 countries enrolled, while 135 speakers delivered 180 guest lectures and 27 lecturers ran workshops.

Weekend Courses are open to everyone and are organised in groups of 8-15 students. Most of them choose to be resident at Madingley Hall, which is the ICE headquarter. Every year, about 200 courses are offered.

It is worth noting that *e-learning* has become an important part of the ICE education programme. A new eLearning website, ICE Online, has been created in order to give the

opportunity to study and learn online, access learning resources, and interact with tutors and fellow students. An increasing number of courses are already available online.

Cambridge Research Office

People met during the study visit:

- *Mrs Liesbeth Krul*, Assistant Director;
- *Dr Clara East*, Research Policy Manager;
- *Mrs Renata Shaeffer*, European Policy Manager.

Description of the Institute visited

The Research Office has been selected as one of the best practices analysed during the Cambridge study visit. This institution was selected for its strategic liaison role among different Cambridge Institutions and for the strong support given to Third Mission projects throughout the University (especially in the sector of Technology Transfer and Innovation). In fact, Third Mission activities use to be externally sponsored, and raising funds is crucial both for Research and Third Mission activities. The Research Office is a centralised office that offers expert guidance in securing and administering sponsored research funding for Cambridge academics, administrators and sponsors. A peculiar characteristic of the Research Office is the organisation of the structure into four School Teams, which provide dedicated support to the School Offices, Faculties and Departments. This enables the Research Office staff not only to provide administrative advice, but also to have a better understanding of the contents of specific calls for proposal, and to better support project ideas presented to funding bodies (EU, ministries, government agencies, etc.). Staff members at the Research Office are in part administrative personnel, of whom a half holds a degree (often a PhD) in subjects related to the School Office where they are working. The average age of staff members is under 40, particularly low if compared with other similar institutions among European Higher Education Institutions. This is a determinant factor of a real open minded attitude, and it develops the ability to find opportunities in different contexts.

The four School Teams are:

- Arts & Humanities and Humanities & Social Sciences;
- Biological Sciences;
- Clinical Medicine;
- Physical Sciences and Technology.

Description of the Best Practices and of the most successful projects

During the interview, Mrs Krul, Dr East and Mrs Shaeffer underlined the fact that every project proposal from the School Offices, Faculties and Departments is obliged to pass validation through the Research Office. The adopted strategy is the *early stage involvement* of the institution, from the call identification to the project design till the project cycle management. Indeed, only the early involvement of departments and faculties can guarantee a full collaboration with them, and offer better chances of getting funds.

The Office builds trust in relationships with academics, who increasingly contact the office not only to sign proposals but also to receive advice to build up and design projects. This system enables the office to contribute substantially to the project quality, both in terms of standard compliance (to regulation and specific calls requirements), and in terms of drawing up a comprehensible proposal for every particular sponsor (especially for the European project cycle management, where it is emerging a peculiar lexicon that academics do not master).

The relationship established between the Research Office and academics and Cambridge institutions is continuous and put in place by:

- Offering updated *Funding Calls Calendar*, a useful instrument for academics to find currently available funding opportunities from all major non-industrial sponsors of research at the University.
- Training academics and administrative staff to use the *Research Professional funding opportunities database* to deliver customised funding opportunities from a wide range of UK as well as overseas research sponsors.
- Offering support and advice in complex searches for funding opportunities.
- Offering advice and support in the early stages of projects.

During the academic year 2008/09, the Research Office processed 2,681 applications with an in value of £1.3 billion. The University of Cambridge is actually the first institution in terms of approved projects in the European Seven Framework Program. This success is the result of a very organised and motivated Research Office team, that is able to collaborate actively with other Cambridge institutions with the objective to look for grants and to move in funds for research.

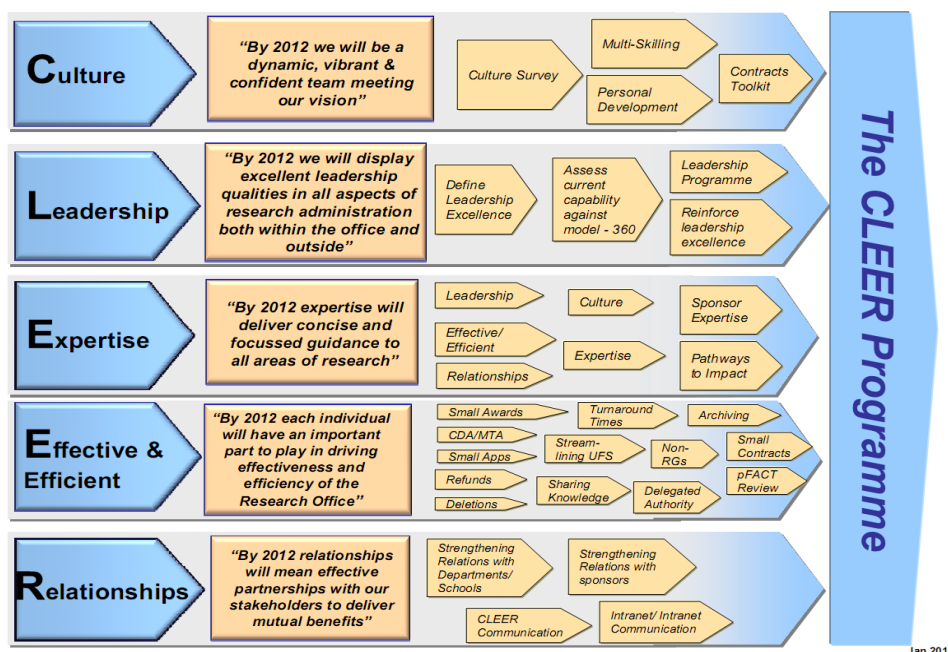
The interview with the Office personnel revealed that the priorities for secure funding for research are: a risk-based judgment (spending time for probable opportunities); to comply with sponsor's requirements but also to protect the University interests; a good organisation in order to do the job at the best and catch all opportunities. The internal organisation and the staff motivation are also crucial for the work carried on by the Research Office, and it is for this reason that a consultation exercise was launched in 2009. Thank to this, the Research Office was able to develop a vision of what it intended

to achieve by 2012. The CLEER Program set the objective, the methodology and the instruments to reach this result.

The Cambridge Research Office intends:

- To be a centre of high quality advice and assistance in securing and administering external research funding, based on extensive knowledge and understanding of the aims of the University and its academic community and the interests of its research sponsors.
- To be recognised as leader in delivering the unique administrative responsibilities of research funding, continuously building confidence in its sponsors in the effective use of their funding and creating mutually beneficial working relationships with all its stakeholders.
- To inspire and promote an environment of personal development, self-worth and quality service through all levels of staff in the Research Office, empowering each person with the knowledge and tools to meet the challenges of the future.

In order to succeed in this vision 5 areas of focus were identified: Culture, Leadership, Expertise, Effectiveness & Efficiency, Relationships. The figure below shows the CLEER strategic map¹:



As the illustration shows, there is a strong commitment to build team capacity and to strengthen the relationship with Departments and Faculties. These are the key elements

¹ CLEER strategic map, Cambridge Research Office website

for success of the Cambridge Research Office. They can be considered as the best practices, also in other research contexts and Third Mission promotion. Evidently, the University of Cambridge has a unique inherited reputation that is contributing to the collection of a considerable amount of funds. Reputation cannot be taken as an independent variable. It is still supporting successful organisations and managerial approaches as the Research Office case shows.

How to measure and evaluate Third Mission activities?

It emerged from the interviews that E3M indicators are valuable instruments for monitoring and collecting information. Many of these indicators are already used by the Research Office in its own activities, even when they do not fall in any of Third Mission identified dimensions. For sure, Technology Transfer and Innovation is one of the dimensions for which most of the project proposals is presented, but there is also support for the Community Engagement and Continuing Education projects. We did notice that the E3M subdivision of multitude of activities that falls under the definition of Third Mission was not completely understood by the Cambridge Research Office interviewees, who used to deal mainly with thematic aggregate.

Cambridge Enterprise Limited

People met during the study visit:

- *Shirley Jamieson*, Head of Marketing;
- *Boris Bouqueniaux*, Business Support Manager.

Cambridge Enterprise Limited was selected as the best practice in Technology Transfer and Innovation dimension for the significant role it played within the University of Cambridge by transforming knowledge in applicable invention, and assuring this with commercial patents. Moreover, Cambridge Enterprise was selected for his particular management model through which the University created a full independent company for innovation and technology transfer activity. This is the only case of Ltd documented by E3M study visits with a number of interesting organisational components justifying the success of the model.

Description of the Institution visited

Cambridge Enterprise Limited was created on 1st December 2006 as a wholly owned subsidiary of the University of Cambridge. Cambridge Enterprise aims to build strong relationships with University academics to encourage discovery as well as cooperative management of the most promising innovations. In addition, it points at making significant, measurable progress in financial sustainability in order to drive long-term benefits to academics, Departments and University. Finally, Cambridge Enterprise aims to be an attractive partner for industry and investors so that to develop University ideas through commercial channels.

The Cambridge Enterprise Group consists of three legal entities:

- **Cambridge Enterprise Limited** was formed on 1st December 2006 as a wholly owned subsidiary of the University of Cambridge. It has responsibility of carrying out consultancy services, technology transfer and seed fund activities on behalf of the University;
- **Cambridge University Technical Services Limited** is a wholly owned subsidiary of Cambridge Enterprise Limited. The first has responsibility for the consultancy contracts and related income streams in support to the Consulting Services business division of Cambridge Enterprise;
- The **Challenge Fund Trading Company Limited** is a wholly owned subsidiary of the University of Cambridge. It is the holder of one of the investment pools managed by Cambridge Enterprise through Cambridge Enterprise Seed Funds business activities.

The relationship between these parties is defined by specific Memoranda of Understanding.

Cambridge Enterprise is responsible for commercialisation arrangements for University discoveries and works in three overlapping areas:

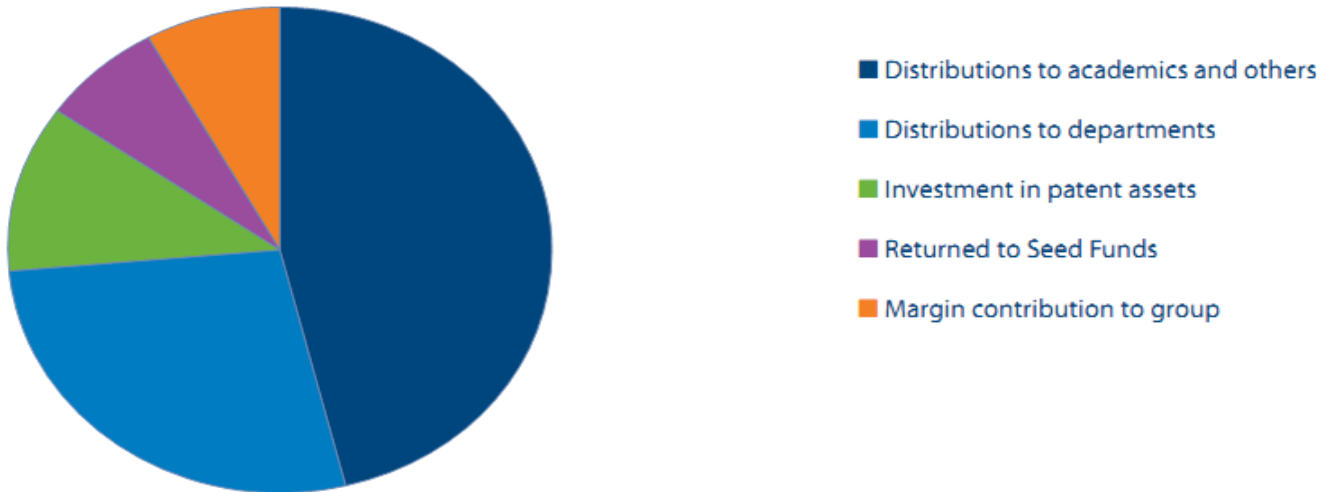
- *Technology Transfer Services*
Includes invention disclosure management, patent strategy, filing and maintenance, proof of concept funding, research reagents transfer, intellectual property licensing and bespoke marketing.
- *Consultancy Services*
Cambridge Enterprise supports University staff who wish to provide expert advice or facilities to public and private organisations worldwide. This includes negotiation of contract terms, assistance with costing and pricing, formal arrangements for the use of University facilities, invoicing, debt collection and income distribution.
- *Cambridge Enterprise Seed Funds*
Cambridge Enterprise provides pre-seed and seed stage investment for members of the University of Cambridge and the Babraham Institute, to help commercialise innovative research through the creation of new ventures. The funds, expertise and networks of the in-house team, backed by the entrepreneurship and business acumen of the Investment Committee, are used to attract seasoned management and follow-on funding to the new businesses.

Description of the Best practices

Last years, Cambridge Enterprise activities had successful outcomes; indeed, the income from licensing, consultancy and equity transactions exceeded £27 million. Over £22 million of that amount was returned directly to the University and the researchers, whose ideas are the foundation of important products and businesses. This can be considered a key strategy for the company, that is repaying back, first, researchers and, second, the university as a whole. The Cambridge Enterprise team currently supports nearly 1,000 University researchers at all stages of the commercialisation process. Over the past three years, £3.9 million in *translational* and *proof of concept* funding for 67 projects was awarded to Cambridge researchers with the assistance of the CE team. Some 878 transactions were completed increasing the number of products reaching the market through licensing activities. The graph below clearly explains how much of the company revenue is given back to researchers and innovators. Nearly half of the annual revenue is redistributed among academics, and another 25% of it among departments. This, as

underlined in the interview with Shirley Jamieson, Head of Marketing, allows the Cambridge Enterprise to preserve (and have a return from) the most important resources: people studying at the University of Cambridge and innovating it.

Distribution of group income 2009/10



An interesting and successful aspect of the Cambridge Enterprise activities is represented by the efforts put into promoting innovation in different study fields. Even if it is evident that specific fields - as informatics engineering, clinical medicine and biological sciences - are more related to innovation and marketable products than others, in 2010, there was a good balance among research fields, especially in consultancy disclosures and income distribution by schools. This shows how well Cambridge Enterprise is connected with all Schools at the University, and to what extent every research field is highly supported in consultancy activities, patenting and proof of concept, both in commercialisation agreements and in the commercialisation of new technology.

Another unusual and successful aspect of Cambridge Enterprise is its governance model. As it was already underlined, Cambridge Enterprise was created as Ltd for two reasons: first, to have a managerial model closer to the enterprise world (the University of Cambridge does not allow external members in its governing boards); second, to adopt more streamlined administrative procedures to operate in the market. Governance model is structured to let Cambridge Enterprise operating in the market and for the market, preserving the values and the objectives of the University. The Cambridge Enterprise Board of Directors has a fiduciary responsibility to its shareholder and reports to the University through the University Finance Committee. The Chief Executive of Cambridge Enterprise also reports to the Research Policy Committee of the University five times a year. The CE Board members are appointed by the University and include three members external to the University, three members internal to the

University, and three members of Cambridge Enterprise Limited (including the Chief Executive and Finance and Operations Director). At the same time, the Director of Finance for the University of Cambridge is the shareholder's representative and observer to the Board. This governance design guarantees the University full control over its Ltd while it does preserve the independence and freedom of decision of the Enterprise Management.

How to measure and evaluate Third Mission activities?

Cambridge Enterprise produces an annual review of its activities that includes a number of performance indicators. Many of these indicators are similar to the E3M ones. Shirley Jamieson appreciated the efforts of the E3M project, but she underlined that being every institution different one from another, it is, therefore, difficult to have common indicators for Technology Transfer and Innovation. With regards to the number of start-ups and spin-offs, Boris Bouqueniaux, Business Support Manager, stressed that is very difficult to individuate a precise number because in Cambridge there are hundreds of activities going on, and it is impossible to trace all of them. The only activities that are recorded are those that are directly funded by Cambridge Enterprise through the different schemes of promotion of invention, patenting and licensing.

Cambridge Public Engagement Office

Person met during the study visit:

- *Nicola Buckley*, Head of Community Affairs, Office of External Affairs and Communications.

The Cambridge Public Engagement programme was selected as the best practice for the Third Mission dimension of Social Engagement. It represents the only dedicated structure among the universities visited within the E3M project framework. Today, the Programme employs six persons and counts on a stable university financing for public engagement activities.

Description of the Institution visited

The Cambridge Public Engagement office works across the University and Colleges to support public engagement, community and outreach work. It coordinates major events, gives practical support, manages community contacts and provides advice to nurture charitable, educational and voluntary partnerships between the University and its communities.

The programmes coordinated by the office are: Bridge the Gap walk; Cambridge Festival of Ideas; Cambridge Science Festival; Open Cambridge; Community Knowledge Exchange. In addition, the office provides public engagement advice, training and networks for University staff and students. The structure works in close collaboration with many voluntary organisations and statutory bodies, and provides a central information point for the public.

Bridge the Gap walk

The annual Bridge the Gap charity walk takes place each September, on the Sunday of Open Cambridge weekend. The five-mile walk raises funds in support of local charities, while giving local residents the opportunity to explore the historic grounds and gardens of Cambridge Colleges. The next Bridge the Gap will take place on 9th September 2012. The Bridge The Gap Walk was started in 2001 by Cambridge News & Arthur Rank Hospice as a public sponsored walk around central Cambridge taking in University, College and museum buildings. In the ten years since the event began, nearly more than £300,000 has been raised with huge support from community partners, including Cambridge News, Rotary of Cambridge, Cambridge University Press, Arthur Ranks Hospice Charity and the University of Cambridge. In 2011, Bridge the Gap attracted 2,700 walkers, raising £40,000 in support of Arthur Rank Hospice Charity and Press Relief, the Cambridge News community fund.

Cambridge Festival of Ideas and Cambridge Science Festival

The two festivals are important events for Cambridge and the surrounding area. They are attended by thousands of persons of every age. Both festivals are dedicated to explore arts, humanities, social sciences and life science. A record breaking 12,000 members of the public attended the 2011 Festival of Ideas. Nearly 190 events took place over twelve days during which the public had a chance to get involved in everything, from a circus skills workshop to debates on current affairs issues.

The Festival of Ideas offers the chance to debate some of the biggest questions in modern times, such as whether the Earth can sustain a population of seven billion people and whether Wikileaks is causing a net revolution. The Festival has welcomed many world-renowned speakers to take part over the years including Charlie Higson, Holly Walsh, Professor Marcus du Sautoy, Richard Dawkins, Jacqueline Wilson, Michael Morpurgo, David Starkey and Evan Davis. Also the Cambridge Science Festival was a great success with over 35,000 people taking part. Both festivals are hosted in working departments and are organised by the Public Engagement staff and student volunteers. The events are free and open to all.

Open Cambridge

Open Cambridge is a public event that celebrates the city's history, architecture, art and gardens. The annual Open Cambridge weekend offers a wide range of walks, talks, tours, exhibitions, and special activities. Local residents and community groups are invited to explore University and College libraries, gardens, historic buildings, museums and chapels as well as civic chambers, graveyards, historic shops, and even aircraft hangars. Also Open Cambridge is organized by the Public Engagement staff but with a strong support from student volunteers.

Description of the Best practices

The Community Knowledge Exchange is the most interesting programme with many elements of success. While other social engagement activities in Cambridge are more spot event oriented (a very much one-way relationship process from the university to the community and the general public), this programme maintains a continuous exchange contact with the community. The Cambridge Community Knowledge Exchange works with community organisations that want some research carried out and with students who need to carry out a project as part of their degree, seeking to make a match between the two. Voluntary and community sector organisations can gain access to research services free of charge whilst students have the opportunity to apply their academic skills in the community and make a real difference.

The Community Engagement team accepts requests for research on all subjects and supports students working on many different issues including management and strategic

planning, policy and legal research, information technology, community health issues, local history and environmental issues as well as a broad range of social issues. In her interview, Mrs Buckley confirmed that these activities are the most valuable ones in terms of community impact and relationship. The Cambridge festivals are great events and constitute an important part of the ‘marketing strategy’ of the University, but the real social impact passes through all year-round activity of the Community Knowledge Exchange.

Mrs Buckley also stressed the governance strategy that placed the Community Affairs office within the Office of External Affairs and Communications. This is a positive contribution to the general relationship between the University and society that is not only based on business and marketing, but it is also made of collaboration and direct contribution. It is interesting the fact that, according to Mrs Buckley, community engagement activities do not fall under the Third Mission definition, but they are an integral part of the general university mission. The paradox is that, among the visited universities, the only structured institution for community engagement does not consider itself a Third Mission actor but an integral part of the traditional mission of University.

How to measure and evaluate Third Mission activities?

With respect to the indicator comments, Mrs Buckley the concrete difficulty in quantifying social engagement activities. Every context is unique and the Cambridge case shows a deep integration of social engagement activity into the University mission. Many E3M indicators are already used by the Cambridge Public Engagement office for reports to University and the National Co-ordinating Centre for Public Engagement (NCCPE). For public events, the Office traces participants as volume proxy of participation utilising an indicator that is very similar to the E3M ones.

General remarks

The University of Cambridge is a peculiar example of a network of institutions where each one enjoys a significant level of independence and is free to develop its own purpose as well as to move in different directions as if all institutions are under an almost invisible umbrella, which aims at favouring cooperation, minimising eventual conflicts and overlapping between them. The role played by the Research Office represents a case in point.

Within this organisational logic, ‘Third Mission’ (third stream) activities are pursued with a rather clear awareness of new roles the university should play when facing a changing society. The rationale behind this seems to take into account the economic and social developing trends at both the national and global level. In particular, the University of Cambridge is the only case among the E3M study visits to have a clear vision and a dedicate structure to social engagement, with a particular focus on the Cambridgeshire county. This is related to the central role played by the University within the social and economic life of the region, but it is also related to a peculiar Anglo-Saxon sense of belonging and community that perceives the efforts made by public institutions for community engagement as an ordinary activity. Furthermore, the United Kingdom is the only country among those visited by E3M experts that has a national coordination agency for social engagement. In 2008, the National Co-ordinating Centre for Public Engagement (NCCPE) was established. It was based at the Watershed Media Centre in central Bristol and a £9.2 million budget was allocated for the next three years.

At the same time, the worldwide level recognised to the University of Cambridge and its consolidated relationship with other English speaking countries makes appear quite ‘natural’ the international influence it has on them, particularly as a source of advice and support for developing (but also developed) economies. With respect to economy, the emphasis is put on leading aspects of innovation both from a technological and managerial point of view.

At cultural level, the continuing education has become an integral part of the learning experience at the University of Cambridge. Besides the traditional rather intense activity carried out by the Institute of Continuing Education, training initiatives have been coupled with many other endeavours promoted by Institutes and dedicated to economic development (Institute of Manufacturing, Cambridge Enterprise), or cultural development (Office of External Affairs and Communication).

A peculiar case is, perhaps, represented by the Cambridge Programme for Sustainability Leadership. Its activities are devoted to raise new awareness of the growing ecological risks among leaders in economic and political worlds at international level. Yet, the specific attention given to leaders appears to be a common characteristic of many University’s initiatives. The Programme seems to be a vivid example of the general inclination to understand and deal with that transformation both at a global and local

level that one can detect at the University of Cambridge. The fact that this is one of the oldest universities in the world may sound bizarre but certainly not absurd.