

Tecnocampus:

A hub of knowledge,
entrepreneurship and businesses

Mataró, Spain





General Information

Title	Tecnocampus	
Pitch	A hub of knowledge, entrepreneurship and businesses	
Organisation	Tecnocampus Foundation	
Country	Spain	
Author	Dr. Richard Woolley (Ingenio)	
Nature of interaction	<input type="checkbox"/> Collaboration in R&D <input type="checkbox"/> Commercialisation of R&D results <input type="checkbox"/> Mobility of staff <input checked="" type="checkbox"/> Academic entrepreneurship <input type="checkbox"/> Governance	<input type="checkbox"/> Lifelong learning <input checked="" type="checkbox"/> Joint curriculum design and delivery <input type="checkbox"/> Mobility of students <input checked="" type="checkbox"/> Student entrepreneurship <input checked="" type="checkbox"/> Shared resources
Supporting mechanism	<input type="checkbox"/> Strategic <input checked="" type="checkbox"/> Structural <input type="checkbox"/> Operational <input type="checkbox"/> Policy	
Summary	<p>Tecnocampus is an ecosystem where students, entrepreneurs, businesses, researchers, academics and local government interact to share knowledge, contribute to regional economic development and build successful futures. The co-located university faculties, start-up incubator, business park and technological centres, are connected through the common focus on entrepreneurship that is integral to all Tecnocampus education in business, health and technology. A wide range of education, incubation and commercial activities intersect and underpin a modern entrepreneurship scene, led by successful young entrepreneurs, that fuses the Catalan tradition of medium-sized family businesses with the flourishing international spirit of entrepreneurship and innovation.</p>	



Introduction & Overview

1. BACKGROUND

The City of Mataró lies on the Mediterranean coast north of Barcelona in Catalonia. It was formerly a stronghold of textile production. The city council's commitment to fostering professional education had historical roots in the creation of the Miquel Biada Institute in the 1950s, which led to the formation of the Industrial Technical Engineering School of Mataró in 1983. In 1999, the Tecnocampus Foundation was created, through an agreement that incorporated the already established polytechnic and business schools in Mataró. When economic reliance on textiles declined, the local municipal administration led investment in the Tecnocampus infrastructure as a way of meeting future social and economic challenges in the region. Construction of the purpose-built Tecnocampus infrastructure took place during 2008-2010. A health school was added to the polytechnic and business schools and the university centres then formed the integrated education-business-entrepreneurship design of the campus space.

Tecnocampus is an affiliated centre of the prestigious Universitat Pompeu Fabra (UPF) Barcelona, which awards 16 undergraduate and Masters level degrees. Tecnocampus covers more than 50,000m², with the three teaching schools located alongside the two towers hosting the start-up incubator (and conference facilities) and the Business Park. The Business Park includes 18,000m² of space, hosting both established local companies and new firms emerging from the start-up incubator, which takes up one floor of the twin towers of the park. The infrastructure design is intended to facilitate informal interactions and ease of movement for students, staff and businesses across all these elements of the campus.



2. OBJECTIVES AND MOTIVATIONS

The mission of Tecnocampus is to create a holistic knowledge and business ecosystem that contributes to economic growth and social progress, by hosting three university schools, a business park and incubator centre and by generating new opportunities among them.

The goals that support this mission are to:

- ▶ provide high quality education and innovative learning opportunities for students entering the workforce and/or becoming successful entrepreneurs,
- ▶ promote, develop and support emerging start-up companies;
- ▶ generate spaces and moments for interactions between companies;
- ▶ make visible the supply and demand of products and services;
- ▶ stimulate informal relationships among people who work every day at Tecnocampus; and
- ▶ stimulate the sense of belonging at Tecnocampus.

The key driver of the Tecnocampus model is the creation of an entrepreneurial ecosystem that is based on both formal and informal interpersonal interactions facilitated by the collocated and purpose built infrastructure, institutional coordination and cooperation. A homology between social and spatial relationships underpins this ecosystem.

3. STAKEHOLDERS

There are 3,000 students at Tecnocampus following courses in engineering, computer games, media studies, business administration, marketing, tourism, logistics, nursing, physiotherapy and sports sciences. Mandatory entrepreneurship courses are embedded in all degrees. Masters courses are available in entrepreneurship and innovation and in health and tourism management, whilst a range of extra-curricular offerings are available through the Business Services Department.

Tecnocampus is home to 159 academics and 62 administrative and service staff. Academic research groups in key linked areas include entrepreneurship, socio-economic welfare, signal processing, public health technical standards, health and ageing.

Tecnocampus governance is a hybrid private non-profit foundation and public ownership model. The Tecnocampus Board is composed of representatives of the quadruple helix: public administration, business, UPF and civil society. The president of the board is a representative of the city council of Mataró. The board includes the General Director of Tecnocampus (Jaume Teodoro), who is directly responsible for the management of the three schools, the Business Park and the incubator. The hybrid Tecnocampus governance model confers strategic and management flexibility beyond that accorded wholly public HEIs in Spain.

Around 120 companies are resident in the Tecnocampus Business Park. The companies present in the Business Park include more than 1,000 staff employed onsite. These companies provide mentorship and share their entrepreneurship experiences within the Tecnocampus ecosystem. They can also benefit from the access to and the recruitment of emerging talent and young creators from the student body. The Business Services Department is responsible for the companies in the Business park, the incubator and the transition of successful start-ups to the park.



Implementation

4. INPUTS

Total student numbers at Tecnocampus have grown rapidly to reach 3,000, from a base of 1,207 in 2010-11. In 2014-15, 91.6% of new enrolments chose Tecnocampus as their first choice study destination. All students study entrepreneurship-related courses within their degree programme, regardless of their field of study. The most entrepreneurship intensive undergraduate degree is Business Administration, which devotes 25% of its credits to the topic. Students who pursue higher-level entrepreneurship competences can take the Master in Entrepreneurship and Innovation. A 2,500m² space is dedicated to a Convention Centre, which hosted more than 300 events in 2014, including conferences, and visits of international business groups.

Academic staff members at Tecnocampus are committed to the use of innovative teaching methods. The Department of Quality, Learning and Innovation (SQAI) trains academics in the use of innovative teaching methods and technologies. There is an increasing focus on teaching entrepreneurship using active learning models that promote interactivity, such as 'the flipped classroom' and other innovative methodologies. Raising staff enjoyment and confidence is also considered a benefit of this process, which helps drive quality performance.

The study programme Masters in Entrepreneurship and Innovation requires the students to enter the course already with a project in mind. The approach combines teaching with incubation activities to promote an outcome that satisfies requirements of the educational programme, while provides the opportunity to also develop a start-up company simultaneously. Tutors assigned to the students, often from the private sector, play an important role in these activities.

Research on entrepreneurship at Tecnocampus is in a developing phase, and the activities are mainly concentrated around the Research Group on Competences, Entrepreneurship and Occupations (CEO). CEO has a particular research focus on the creation and use of entrepreneurial competences.

Tecnocampus represents more than €50m of investment from stakeholders including the Mataró municipal government. Principal funding sources include student fees, revenues from business services and the commercial rents generated by the Business Park, further to donations and public subsidies. The annual budget is around €20m.

5. ACTIVITIES

The core orientation of Tecnocampus toward entrepreneurship is driven by a suite of activities across education, incubation and business, that together create an entrepreneurship ecosystem. All degree courses introduce entrepreneurship to spark interest and motivation. The core education areas of technology, health and business are mirrored by research activities and the presence of start-ups and companies working in these areas on campus, allowing the integration of activities involving businesses and local entrepreneurs. Students with emerging ideas can qualify for residency in the pre-incubator located next to the incubator. The pre-incubator was developed as tool for students to see role models of successful start-up companies in action, to provide this visualisation of what is possible. Students from the pre-incubator are invited to spend time with CEOs of start-ups, some of whom become their tutor.

Extra-curricular activities such as the Innoempren programme and the Weekend Challenge are both designed to promote and develop the entrepreneurial ethos among students from the outset of their university education, and to provide an initial point of orientation for students who have business ideas. Students of Business Administration can also receive credits for these activities as part of the Business Projects course of their degree.

The Innoempren university programme features intensive entrepreneurship programme as it involves weekly meetings for six months. The focus is on prototyping, lean methodologies, minimum viable products, developing customer validation approaches and other demand side elements of the project. The Innoempren programme for students will soon also be affiliated to the Youth programme of Santander bank to allow students to compete for the top prize of a trip to Silicon Valley.

Weekend Challenge is a two-day hackathon focusing on entrepreneurship, where students work on their own ideas or develop new projects. The winners of this challenge gain free access to the pre-incubator and represent Tecnocampus at the IntEntSem international programme. IntEntSem takes place for one week per year, each time at a different participating European university. The most recent winning team was interdisciplinary in its approach, composed of students from the three different schools. This activity is designed to broaden the understanding students have of the different roles and paths that entrepreneurial activities can provide if they team up with partners with different competences. This is also an effective interdisciplinary programme as participants come from different degrees. The entrepreneurial issues confronted in the programme also develop students' understanding of the international dimension, including the legal and cultural challenges of working across countries. Growing involvement in incoming and outgoing Erasmus mobility for students and staff also increases internationalisation.

The incubator has the capacity to host up to 25 start-ups originating from both inside and outside the university. The time spent in the incubator is maximised in three years. The incubator facility is highly popular, and it is fully subscribed. Incubation activities incorporate a range of activities, and start with the assignment of a tutor, creating a company dashboard, specialised consultancy services from local companies and mentoring. A funding road map is developed with industry advice and pitching opportunities arranged to facilitate meeting private investors. Marketing and social media planning is developed and a weekly open networking event is held to help connect with the local business community. Established industry professionals in marketing, funding, branding and sales provide advice through monthly meetings. Start-ups are required to transit to the Business Park after successful completion of the three years in the incubator. Tecnocampus is also one of seven business accelerators that make up the Start-Up Catalonia network.

Another benefit of having the Business Park co-located, is that students from the Business School can undertake internships with companies in the Business Park as part of their courses. Most companies in the Business Park participate in the internship programme, in which students work on tasks or projects currently underway in the business. Students who work on internships might be paid for their work. Furthermore, CEOs from Business Park companies as well as external business leaders provide guest lectures and case studies for the student groups. This bi-directional exchange of learning and experience sharing is central to the Tecnocampus ecosystem model.

Other regular activities include the 'Nit del empreneadors' (Entrepreneur Night) event presenting awards for best ideas, successful start-ups and a student prize.

A new initiative since July 2015 is the Junior Enterprise programme, in which a student enterprise is situated for a time in the Business Park. This activity is designed as a further bridging step between

entrepreneurship training and practice. Junior Enterprises also often involve students from all three schools, promoting an interdisciplinary approach to entrepreneurial activities.

The Business Community programme is designed to generate more opportunities for collaboration and networking by providing a platform for participants in the Business Park to get to know each other. This programme includes a market place, designed to stimulate trade agreements and a Business Corner to present one's enterprise to another. Company Seeks a Partner provides a channel to facilitate the launch collaborative work, product development among companies in the park. Informal measures include the after-work weekly meeting to share coffee or a drink. Whilst these activities are primarily designed to develop connections and opportunities among companies located in Tecnocampus, students and firms from outside can also participate as appropriate. The main objective is to build the entrepreneurial business ecosystem for the benefit of all those involved in Tecnocampus.

Other avenues for entrepreneurship training at Tecnocampus include a three-week summer school and the Innoempren High Performance Programme for entrepreneurs, which is targeted at start-ups or business that are closer to the market space. It focuses on project validation and development activities, and are addressed to pre-seed, short experience start-ups and established company phases. Participants in this programme come from both outside Tecnocampus and from the incubator and business. The focus of the high-performance programme is transformation of the idea or start-up into a consolidated business.

Additionally, two or three times per year Tecnocampus conducts an investors' forum to connect start-ups and investors. The Tecnocampus Incubator has also provided some pre-seed funding for start-ups lacking finance for aspects of their initial development, as investors are more available closer to the market stage.



6. OUTPUTS

As of 2014-15, Tecnocampus had 534 university-business cooperation agreements in place. A total of start-up companies created reached 61. Daily users of the Business Park had grown from 3,204 in 2013-14 to 3,556. To date 434 entrepreneurs have used Tecnocampus business services. A total of 814 companies have passed through the business accelerator programme.

Most students who complete coursework internships with companies in the Business Park have been hired by the firms where they did their internship on completion of their degree training.

7. IMPACTS

Tecnocampus' start-ups have generated revenue and employment, much of which remains linked to the local region.

The local labour market is smoothing as students' internship and linked education opportunities reduce company employee search and recruitment costs. The presence of former students in companies in the Business Park, helps create a feedback loop where alumni contribute to Tecnocampus education and extra-curricular activities.

The employment of students with tailored competencies reduces induction and training costs of new employees.

The increasing reputation of the Tecnocampus model has a flow-on effect to the desirability of the courses on offer and is raising the entry standards required for incoming students.





Support & Influencing factors

8. SUPPORTING MECHANISMS

Tecnocampus can be considered a strategic instrument of local government, industry and education stakeholders to construct a dynamic interface that trains young people with an orientation toward business and entrepreneurship under the banner of jointly constructing the future.

Operational instruments include a suite of cooperation activities including student internships, curriculum development, guest lectures and events featuring local entrepreneurs and businesses, student pre-incubator facility with business mentors and numerous mechanisms for formal and informal interactions between university and business stakeholders in Tecnocampus.

9. BARRIERS AND DRIVERS

However, funding for early stage start-ups remains a barrier to acceleration of some new businesses. Although some limited pre-seed funding can be accessed through Business Services, a medium-term strategy of Tecnocampus is to try to address this problem through agreements with private investment sources.

Additionally, Tecnocampus is rapidly approaching full capacity in both its educational and business park operations. Strategic planning and decision-making in relation to the utilisation of the current space and the desirability and potential for expansion is an emerging challenge.

10. FUTURE CHALLENGES

It is a challenge for the management with regards further expanding the operations that both the size of the student body and the number of resident companies in the Business Park have reached the current maximum capacity.

An educational challenge is to bring students from the different schools into the same classroom for entrepreneurial classes. This is difficult to achieve technically in relation to the competences and learning outcomes associated with different degrees. However, the benefits for interdisciplinarity of developing this approach make it also a desirable next step in curriculum development. Tecnocampus also seeks to foster a more extensive research culture linked to entrepreneurship, with increased support funding and promotion of research activities.

Extending the international engagement of Tecnocampus at all levels is another identified challenge. From the university perspective this includes promoting Erasmus students and other programmes abroad for both incoming and outgoing students. Currently a Degree in Business Administration and Innovation Management is fully taught in English, with the goal of having half of all classes taught in English. Internationalisation of the Business Centre is also being promoted, particularly through networking with other incubators in Spain and Europe.

Sustainability is also a motivation of the recent internationalisation programme developed by the Business Park. This focuses on three lines: internationalisation of the Business Park itself, the internationalisation of the located companies, and the promotion of an internationalised culture across the Park. The Business Park plans to join an international network of Business Parks under the Go Global

Programme. With regards to the internationalisation of companies, initiatives under the 'Go International' programme include providing guidance and defining agendas to international companies that visit Tecnocampus, including a gateway to the Spanish market programme available for incoming businesses. Foreign market training is also available for Park companies that want to open new international markets. To promote the culture of internationalisation, the International Business Club holds periodic meetings and networking events, among other initiatives.

11. CONTEXT

Tecnocampus is defined by its three education schools and the research that shapes the knowledge base driving entrepreneurship and start-ups. The focus on progressively increasing the extent of interdisciplinarity in the process of formation and the creation of start-ups seeks to leverage the complementarities of the technology, business and health fields.

12. KEY SUCCESS FACTORS

A critical success factor is the working relationship between the three educational schools and the Business Services Department. Collaboration on the design of new course offerings within the degrees ensures maximum opportunities for student immersion in an entrepreneurial business culture that underpins the Tecnocampus ecosystem model. Students who finish their education at Tecnocampus will be intimately familiar with the day-to-day life and requirements of businesses.

Also, students can see successful examples of start-ups and businesses located in Tecnocampus and trace their trajectory through the development process. Success stories generate motivation and help clarify the pathway. Grades and course outcomes are directly related to the performance of entrepreneurship activities.





Further Information

13. MONITORING AND EVALUATION

The Annual Report produced by Tecnocampus charts growth in all key indicators since 2010-11 to the present. These indicators form the information basis for strategic and operation planning and an input for evaluation against key success factors.

14. SUSTAINABILITY MEASURES

Institutional sustainability is advanced through the Tecnocampus Foundation Board, which includes a mix of industry, government and education stakeholders. Their interests are in the continuation of the education-business interface created and furthering of its observable impacts. Innovation is an important part of the sustainability approach, with a new business centre for health specific start-ups in development.

The RIS3 programme (<http://s3platform.jrc.ec.europa.eu/home>) is an agenda under the Europe 2020 framework that aims to promote clustered areas of smart specialisation. Tecnocampus, together with other stakeholders of the region, has presented two proposals to create regional specialisations in smart textiles and health. Tecnocampus already has considerable expertise in these areas, which can be further developed through knowledge intensive activities, entrepreneurship and innovation to provide a sustainable future focus for the region.

The internationalisation challenges that are a current strategic focus are also considered to be contributing sustainability measures.

Finally, the integration of entrepreneurship into all courses and the emphasis put on professional development are critical to the experience of Tecnocampus as an immersion in entrepreneurial attitudes, thinking and activities.

15. TRANSFERABILITY

The Tecnocampus model is transferable and can be tailored to local/regional needs in terms of technical and educational specialisation. The model requires a large financial investment, a high level of triple-helix coordination combined with effective institutional flexibility, and a strategic vision to develop the project over the medium to long term.

16. AWARDS AND RECOGNITION

Students from Tecnocampus have won the prestigious *UPF Emprèn* prize for student entrepreneurship in four of the past six years.

Sara Giménez, a student of the tourism and business administration degree, won the 2014 *Yuzz* prize awarded by the Banesto Foundation for her project *Prometteo*, a tourist smartphone application for hearing impaired people.

In 2015, a group of four students from the computer games degree won *Best Computer Game 'Commemorations 2015'* awarded by the Catalan Regional Government.

17. PUBLICATIONS AND ARTICLES

News about Tecnocampus (in Spanish):

www.elperiodico.com/es/noticias/mataro/tecnocampus-mataro-ayuda-crear-430-empresas-cinco-anos-3929278

www.lavanguardia.com/local/maresme/20150513/54431203477/tecnocampus-mataro-convenio-barca.html

18. LINKS

Tecnocampus www.tecnocampus.cat

InnoEmpren programme www.tecnocampus.cat/ca/innoempren

Tecnocampus for businesses www.tecnocampus.cat/en/business

Strategic Plan of Tecnocampus convencio.tecnocampus.cat/

19. CONTACT PERSONS



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