

Interview with Luis Ignacio Vicente, Innovation Manager and Head of Telefonica Patent Office



Please briefly describe the companies you explore, including their activities in research and innovation (techno-scientific area and scale) as a background for the following questions.

Telefónica is the world's second leading operator in terms of R&D investment. This amounts to around EUR 1.1 billion a year, representing 8% of all business R&D in Spain (<http://informeannual2013.telefonica.com/informe-integrado/ser-mas/ser-mas-innovadores>). Telefónica I+D (TID) is the Telefónica Company responsible for innovation and technological development since 1988.

According to its website

(www.telefonica.com/es/about_telefonica/html/in_brief/quienessomos.shtml):

- With its headquarters in Spain, Telefónica is present in 21 countries and, given its commitment to R&D, it has centres in such key countries as United States (specifically Silicon Valley), United Kingdom and Israel. The company also has a major presence in Latin America. Its database has over 300 million customers and over 1.5 million shareholders.
- In 2013, it employed 126,730 people, 4.9% down on the previous year, according to the company, to 'maintain Telefónica's capacity for innovation, given the difficult environment in the sector'. Of these employees, 27.7% lived in Spain, 16.4% in the rest of Europe, 16.7% in Brazil and 39.2% in the rest of the world.

Telefónica conducts its R&D partly internally and partly in partnership with other companies. Internally, the R&D budget is around EUR 200 million, most of this going to TID. This EUR 200 million budget makes TID the most important private sector R&D centre in Spain. The company is quoted on the Spanish, London, New York, Lima and Buenos Aires stock exchanges.

In Spain, TID has five physical centres (Madrid, Barcelona, Valladolid, Huesca and Granada) and a number of virtual R&D centres, in other words, branches that work in other places but not out of a physical building or centre. Over 95% of the TID staff have university

qualifications: 689 scientists and technologists from 20 different nationalities in 2013. According to the company, these professionals are its main asset. Currently, TID works with numerous technology leaders and organisations in 40 countries, including over 150 universities worldwide. At the same time, the company is involved in various international technological knowledge forums in the ICT sector.

Luis Ignacio Vicente is the Return on Innovation Manager and Head of Telefonica Patent Office, a position of responsibility within the company given the large number of patents it registers: 82 patents in 2013 alone. Raquel Jiménez Alcalá was also present at the interview.

In the context of Telefónica's business, Vicente explained that TID works in R&D&I to obtain a return. This return is not merely economic but also social, he added. There are indicators to measure the social value of the return (such as those related to the patent office or public R&D policies, which have a high impact in developing countries). However, there are still considerable doubts in the heart of the company about how to measure this return correctly. Indeed, the company itself defines such return in the following terms:

'To ensure its innovation is guided by the right strategy, Telefónica measures the return on its efforts in R&D&I through its products and platforms, and its intangible technological assets. The main ones are its patents, capital generated from the knowledge and inventions produced from innovation, which helps protect and differentiate its products and technologies.'

Another aspect of Telefónica that Luis Ignacio Vicente was keen to stress is the enormous involvement in European R&D projects and TID's collaboration with over 50 universities undertaking them.

'Telefónica has become the leading European company in terms of involvement in Framework Programme projects throughout Europe. We have reached a total of 200 projects in conjunction with universities and research centres, both in Spain and abroad'.

Sources:

- Telefónica R&D data: <http://www.tid.es/es/acerca>
- Telefónica innovation data, 2013 report: <http://informeanual2013.telefonica.com/informe-integrado/ser-mas/ser-mas-innovadores>
- Telefónica Key Figures DATA: http://www.telefonica.com/es/about_telefonica/html/home/home.shtml
- 2014 data: http://www.telefonica.com/es/about_telefonica/html/in_brief/quienessomos.shtml
- Telefónica in figures: <http://informeanual2013.telefonica.com/telefonica-en-cifras>
- Luís Ignacio Vicente bio: <http://blogthinkbig.com/autor/luis-ignacio-vicente-del-olmo/>

How do TID address issues of responsibility in research and innovation, and which dimensions of RRI can be identified in the organization of research and innovation activities?

The concept of RRI does not appear explicitly in the strategic document and projects of Telefónica or TID, but some of its aspects are implicitly included in the companies. Luis Ignacio Vicente is very familiar with the concept of RRI. Furthermore, his department had the chance to value and assess many of its aspects in the context of the Horizon 2020 programme. According to him, the company's priority goals match a number of aspects of RRI: 'One of our key activities is to strengthen the brand's innovation dimension, which includes a socially relevant component.'

Some dimensions implicit in the company's enterprises include:

Science and society

The concept of public engagement in Telefónica and TID is closely linked to their business goals and to the capacity to strengthen links with society throughout the R&D&I process, as after all, it is the public who are the target for the company's products. In the corporate approach, the concept of innovation is associated with consumer preferences. In this context, Telefónica's R&D&I activity focuses on being leaders in the sector, bringing people closer to the digital future and thus improving their lives. According to the 2013 report:

'The main challenge of innovation is ensuring the satisfaction of existing customers and gaining new ones, launching digital products that meet current and future needs and obtaining their satisfaction. Users, with their needs, interests and preferences, are also a key element in inspiring the definition and creation of new products.'

Luis Ignacio Vicente talked about the change of paradigm where now the company itself values the public's needs before undertaking research.

'It is not acceptable to undertake research before knowing who needs it. **We no longer plan research without asking first.** We don't research anything we don't think will be of interest to anyone.'

Vicente referred to a value of utility in all activity that provides a social benefit. Hence he highlighted three fundamental pillars on which TID's activity is based: technology, business and the public. 'For us, the third pillar is as important as the other two'.

To facilitate this dialogue with the public, they have created the **User Experience Department**, where they explain what they want to do to future users and ask for their feedback. This consists very often in ideas that have not yet materialised and first impressions among potential users can be very useful to help adapt projects to the people's needs and ensure their use; after all, as Vicente stressed, Telefónica develops services for millions of people.

Technological education

Telefónica carries out actions to increase children's technological and, in particular, scientific literacy. In this context, Vicente highlighted the 'Mini inventors' project, aimed at employees' children, with a clear intention of awakening scientific curiosity.

'We explain to the children what technology is and then they go on to invent things.'

At the same time, Telefónica organises technology workshops at schools, either on its own or in conjunction with other organisations. For instance, it is actively involved in Science Week, which takes place in November throughout Spain with the aim of bringing science and technology to all publics, with special emphasis on school and pre-university ages.

Open access

Telefónica plays a very active role in this field. Some of its related activities are:

- Heading a Europe-wide debate on **open technologies** with the participation of intellectual property rights (IPR) groups and other organisations.
- It is the main partner in a European project to develop the European **Internet of the future** experimental platform. This involves FI-WARE, a project conceptually related to the open access field, but deploying a platform in which the cities involved create an ecosystem where the open data and Internet of Things enable entrepreneurs to create new services. According to Luis Ignacio Vicente, it is the biggest European project in the ICT sector in recent years, with a budget of EUR600 million.
- Vicente discussed another example related to open access. He mentioned Telefónica's support to Mozilla in launching the Firefox OS operating system for mobile phones, so far widely used in India, whose development is based on HTML5 with an open source Linux core.
- He also pointed out that there was an open source advisory director in Telefónica R&D.

Gender and ethics

Telefónica has an equality committee, although Luis Ignacio Vicente explained that gender is not an explicit subject in the company's planning documents.

'Equality is seen as something natural, where no special effort is required; it is understood that having both men and women is more productive. For us **it is more productive if there is diversity, both in terms of culture and gender.**'

With respect to ethical measures, TID does not include this aspect but Telefónica does in a wider sense. In the context of ICTs, Vicente highlighted the company's **Digital Manifesto**, which describes the basic principles of the digital world, including issues such as child protection and privacy, among others.

The company is also involved in projects related to these privacy issues, such as the Moon Shot Personal Data Bank, which is based on the idea that data in the digital world should be treated in the same way as money kept in banks. **‘My digital self should be something private and only the owner should decide when to use it.’**

Sources:

- Fi-Ware source: <http://blogthinkbig.com/fi-ware-apis-abiertas-i/>
- User experience: <http://blogthinkbig.com/ux-telefonica-id/>
- Telefónica 2013 Annual Report: <http://informeanual2013.telefonica.com/>
- Social Action in 2013 report: <http://informeanual2013.telefonica.com/informe-integrado/ser-mas/ser-mas-para-la-sociedad>
- Digital manifesto:
<http://www.digitalmanifesto.telefonica.com/manifesto/?lang=es>
- Firefox OS: <https://www.mozilla.org/es-ES/firefox/partners/>

How does RRI relate to CSR aspects and activities? Are these separate or intertwined domains, and how is this visible in research efforts and company strategies?

RRI is not an explicit concept in Telefónica, but some dimensions of RRI are covered by the concept of corporate social responsibility (CSR), which in Telefónica’s case is closely associated with issues of sustainability, attention to disability and children’s rights, among others.

Three RRI dimensions in Telefónica’s CSR actions are especially worthy of note: education, ethics and dissemination.

With respect to the first, as Telefónica states in its CSR portal, the company has solutions and resources to help train people interested in ICT topics, such as connectivity, platforms, content and mobile devices as a medium. These resources are designed for corporations, schools, teachers and universities, among others. By way of example, the company offers resources such as Wemooc and Miriadax, open-source applications that permit the creation and management of massive open on-line courses (MOOC), or SolarTIC, a social network for sharing educational resources among teachers and schools.

With regard to ethics, this is approached from two angles: firstly, via business ethics and, secondly, via a topic of specific relevance to ICT: privacy and data protection. Luis Ignacio Vicente also emphasised this aspect, given the specific capacity of a company like Telefónica, with access to the data of an enormous number of customers. Ethics is fundamental in a company of this nature, because respecting the ethical code on this question has a further favourable impact on the company’s finances and reputation. The company’s ethical code is contained in the Business Principles document. The Business Principles Office is the company agent responsible for ensuring these principles are respected.

Another notable aspect of the education-ethics interface is the specific effort made to consider issues of good use of technology among children. This aspect is considered in Telefónica's CSR principles and also covers dimensions of RRI.

Telefónica does not place special emphasis on dissemination; however, some of its actions are clearly related with this concept. This could be the case of its educational activity described above. Communication and dissemination are also a significant part of the e-Health line, whose aim is to use the benefits of ICT to reduce public healthcare expense, among other things. Luis Ignacio Vicente drew attention to a project with Telefónica's involvement, Telehealth, intended to facilitate and speed up patient-doctor communication and favour remote patient management. The project was implemented at Barcelona's Mar Health Park, where a significant reduction in outcomes such as hospital readmission, days' hospitalisation and even mortality was observed with remote follow-up of chronic patients.

Along with these CSR actions, the company also channels its social and cultural work through the Telefónica Foundation, whose CSR initiatives include dimensions of RRI. These correspond to two of the foundation's pillars: education and learning, and digital art and culture.

In 2013, Telefónica spent EUR 129 million on social actions, of which EUR 26.64 million were invested in education and learning and EUR 10.12 million in digital art and culture. In the field of education and learning, the foundation organises a competition to develop mobile apps for Firefox OS and directs a digital inclusion programme to bridge the gap in certain Latin American countries, among other actions.

In the field of art and culture, in 2013 the foundation brought 85,000 attendees to digital culture events and 740,000 visitors to exhibitions in which the organisation was involved. The foundation also has centres in four cities in different countries (Madrid, Buenos Aires, Lima and Santiago de Chile) which bring the latest trends and current thinking in technology closer to society.

Printed and digital publications are another channel the foundation uses for communication and public engagement. These are not limited to topics on digital culture and technology but also include more scientific aspects. An example of the latter is the system of foundation-affiliated blogs on topics such as women and science, nanotechnology or neuroscience.

Sources:

- Social responsibility and sustainability:
<http://www.rcysostenibilidad.telefonica.com/>
- Social responsibility data: <http://informeannual2013.telefonica.com/informe-integrado/ser-mas/ser-mas-para-la-sociedad>
- Ethical code:
http://www.telefonica.com/es/about_telefonica/html/strategy/principactua.shtml
- ICTs for children: <http://www.rcysostenibilidad.telefonica.com/personas/buen-uso/tic-ninos/>

- Education: <http://www.rcysostenibilidad.telefonica.com/personas/educacion2/>
- Telefónica Foundation 2013 report: http://www.fundaciontelefonica.com/wp-content/uploads/2014/09/FT_informe_anual_2013.pdf
- e-Health: <http://www.rcysostenibilidad.telefonica.com/personas/ehealth/>
- Telefónica Foundation blogs:
http://www.fundaciontelefonica.com/arte_cultura/blogs/

Which, if any, mechanisms are in place to accomplish RRI?

As described above and as Luis Ignacio Vicente pointed out, Telefónica does not consider RRI explicitly so does not have any mechanisms in place to achieve it. However, it does value CSR, whose mechanisms are described above.

Which are the perceived barriers to accomplishing RRI?

In Luis Ignacio Vicente's opinion, one of the main obstacles to RRI is measuring the return on TID's innovation. He admitted that there are still doubts in the company regarding how to measure this return and define the best indicator mechanisms and models to measure the impact of innovation and even research and development.

'It is not easy to measure our impact.'

From the qualitative point of view, the company has its corporate social responsibility department in which innovation concepts have a significant presence, but it is in the quantitative approach where doubts still linger, which Vicente blames partly on the sector with Telefónica at the forefront:

'We are probably in a less critical sector than, say, pharmaceuticals, in the sense that the impact of certain decisions seems less important than in genetics, for instance.'

However, according to Vicente, the ICT sector is an important lever for economic development, which needs to be taken into account throughout the process (not just in innovation). Telefónica carries out studies with the aim of analysing how ICT investment impacts favourably on the economy and social development. If it is not favourable, this could harm the company if certain responsibilities are not borne in mind.

'As soon as you do something that goes against the flow in the sector, the sector will be out to get you. Generally in technological evolution there is, firstly, a social impact that the companies themselves need to control, but there are sometimes consequences that can even take by surprise those who are responsible for ensuring caution.'

Another barrier facing TID in fully developing RRI is in the pillars mentioned by Vicente with regard to the company's activity: technology, business and the public. Although the public is the end target for technology, the business model may stress certain aspects that at a university or research centre, for instance, might remain in the background. Sales, marketing or a growth-based model can hinder RRI.

However, the public is indeed gaining importance throughout the production process, as Luis Ignacio Vicente explained and illustrated with the example of the User Experience Departments. The company uses them to seek opportunities for innovation, to improve its products and to increase its economic positioning and reputation. In other words, the company takes citizens more into account in order to grow, and thereby acquires greater social responsibility. In fact, Telefónica states so in the description of its strategy:

'The telecommunications sector continues to face challenges and constant changes that have completely redefined it in a short time span, with the birth of new business' ecosystems that force companies to transform and adapt to the new realities. This overarching need for transformation goes hand in hand with that of innovation. **Companies have to set up ecosystems that promote and foster innovation to ensure long-term success, which brings people even closer to the centre of business.** Telefónica has done this.'

And this is, in the end, Luis Ignacio Vicente's message, as seen in the previous sections.

'R&D itself, carried out coherently, has a relevant social impact. The good thing about ICT and R&D&I is that they involve economic and social development. If there is social development of telecommunications, it reaches everyone.'

Source:

- Strategy:
http://www.telefonica.com/es/about_telefonica/html/strategy/home.shtml