

# Towards a Novel Solution for a Knowledge and Technology Transfer (KTT) Infrastructure for the Institute of Biomedical Technologies

Review Knowledge and Technology Transfer Office of Universidad La Laguna

Review dates: 19. January (10am-8pm), and  
20. January (9am-5pm) 2015

Report: Dr. Christian A. Stein, RTTP  
12. February 2015

## 1. Introduction and Status quo

### *1.1 Knowledge and Technology Transfer today*

Different countries and different universities have developed different ways of legislating, organizing, structuring, managing and funding their knowledge and technology transfer (KTT) functions, depending on jurisdiction, formal considerations, traditions, local environments and strategic priorities. Consequently, no consistent definition or an ideal "model" for how to organize and operate a Knowledge and Technology Transfer Office (KTTO) exists. At the heart of all KTTOs, however, is **core knowledge and technology transfer**, which always includes:

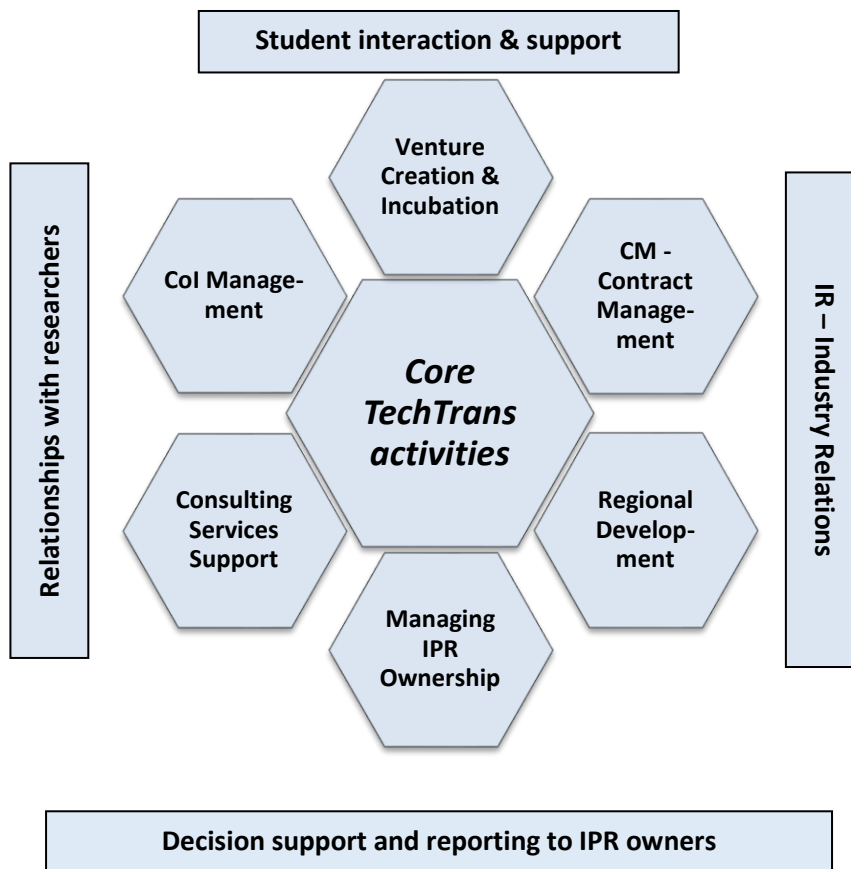
- **receiving** and registering new ideas, discoveries, and inventions ("Invention Disclosures"),
- **refining** them (incl. securing intellectual property rights, project development if appropriate), and
- **offering** them to external stakeholders or investors with a desire to exploit them in some way.

In most countries, a minimalistic KTTO with administrative staff to carry out these core activities will suffice to satisfy formal requirements from their respective legislatures. Such a KTTO would be a cost center to its university, focusing on following procedure when reacting to any and all "Invention Disclosures" that showed up in their inbox.

An increasing number of universities are opting for more aggressive and proactive strategies, fueled frequently by a push from governments for universities to take a more active role in economic development and creation of jobs. Then, core KTT is still necessary, but no longer sufficient. This strategy shall be applied to CIBICAN, as otherwise it will be unlikely that CIBICAN will be capable of positioning itself as a Center of Excellence in translational research.

Additional support functions are therefore required, and those need to interact in order to meet the expectations of their respective peers.

At the conceptual level, these functions can be identified and visualized as follows:



Source introduction and diagram: Karl Klingsheim, ASTP-Proton, 2014 (personal communication)

Different universities will choose different structures for organizing and managing these functions, and again no universal “best practice” exists. It can be observed, however, that all functions exist with professional staff at those universities who are most successful in creating impact from their knowledge base, indicating that these features are mutually beneficial and interdependent, irrespective of the organizational structure in which they are embedded. Lacking one or more functions will prevent the ecosystem's ability to realize its full potential for (commercial) value creation.

### **1.2 Definitions for the purpose of this review**

**The researchers/scientists** are key stakeholders to any KTTO. Without the confidence of their researchers, no KTTO can succeed. This was the reason for using the expectations of scientists at CIBICAN as basis to determine the special needs of a KTTO for CIBICAN. At the same time, the primary loyalty of any KTTO must always be to the institution's interests, even if this may not always be aligned with the personal wishes of the researchers. Therefore the introductory workshop and the final session for this review were conducted with the CIBICAN and KTT management team and its prospective staff.

**Industry Relations** is a function chartered with creating, maintaining and expanding win-win relationships with relevant companies in the region, if available, and abroad. Universities in most

countries are experiencing declining funding from governments, and the alternative to scaling down their operations is to find other sources of income - both directly from business and from government sources (including the EU ) in cooperation with companies and consortia of firms. Consequently, forging relationships with relevant companies, documenting capabilities for KTT, producing applications for funds, managing projects, and creating impact from project results are all capabilities in increasing demand.

Teaching and supervision of **students** is also the responsibility of some, but not all, KTTOs, especially at institutions where entrepreneurship and innovation are part of the education program. Many KTTOs also undertake to work with the commercialization of student-initiated ideas, but often struggle to obtain financing for student-related type of work.

**Contract Management** is inherently a support function to the universities' line management with the aim to ensure the quality of new contracts and always maintain an updated basis for making decisions in relation to the university's legal obligations vis-a-vis the outside world. This starts with inter-institutional agreements between academic institutions and between industry and academic institutions, material transfer agreements (MTAs), confidentiality and/or non-disclosure agreements (CDAs and NDAs), option- and licensing agreements, collaboration agreements, equity agreements (and all other contracts that spinoff management encompasses) and many more.

**Regional Development** implements university strategies and plans in relation to community and regional economic development. Expectations for universities are generally increasing in this area, and universities must (eventually) establish a clear strategy and a professional handling of the expectations. For CIBICAN this aspect is of major importance and needs to be balanced with the necessity to avoid isolation by collaborating outside Tenerife and the Canaries.

**IPR Management** involves securing the university's knowledge base in relation to community involvement, economic interests, and future research and teaching. Each participant in a partnership must be able to control what values they bring into a relationship, agree how the values created in collaborations must be documented, captured, controlled and owned, and finally have clear expectations of how the results of cooperation be utilized by the various partners.

**Consulting Services** is an administrative service to the academic staff for the orderly management of external contracts that are not pure research. Many universities have established this as a service, rather than a requirement, to their employees – who then get professional help with marketing, sales, compliance with formal order, insurance, accounting, invoicing, cash collection, etc.

**Conflict-of-Interest (CoI) Management** involves transparency and orderliness in relation to researchers' external engagement, and management of potential conflicts that may arise. Most leading universities in the United States and few in Europe, have clear policies for CoI and committees for handling them. Transparency of scientists' involvement in commercial activities and other external work is always central to these policies.

**Venture creation and incubation** involves an active commitment to the establishment, financing, development and disposal of startup companies based on university knowledge.

Startup companies can no longer rely on protected domestic markets, since markets are becoming more open, more global and more accessible across national boundaries. This trend also bears opportunities for geographically more isolated regions. Consequently, new businesses can and frequently must be established in an international context and developed faster than in the past. Therefore, inexperienced entrepreneurs need help to prioritize resources, such as time and money optimally, mostly through rapid creation of efficient work processes, access to infrastructure and supply of competent capital. For CIBICAN the creation of a healthy entrepreneur-friendly environment will be a key success factor.

### **1.3 Past and current KTTO structure** (Universidad La Laguna/CIBICAN)

ULL used to have an Oficina de Transferencia de Resultados de Investigación (OTRI) until end of 2014, whose head and only staff consisted of one person, Jose Manuel Padron. OTRI had no budget, no responsibilities and no (signature) rights nor other forms of empowerment. All relevant communication, all decisions regards patent applications, IP protection, all commercial exploitation decisions including MTAs etc., negotiations and signatures were and are, according to the information given, in the hand of the administration of the University directly, in particular the chancellor. This means that KTT was happening only in an opportunistic fashion and thus the degree of satisfaction amongst scientists with the ULL technology transfer was and is low. This is no surprise, as there is neither funding nor capacity for a professional KTTO, and as there are no processes implemented, as how to manage research results in an impact driven fashion. As the OTRI had no policy, strategy or power, it was only consequent to shut it down recently, so that ULL has now to the reviewer's knowledge, no official KTTO, despite proclaiming that translation and innovation are important to their strategy. For an outsider this policy line is difficult to comprehend. Also this is in conflict with the entire Horizon 2020 programme, as the lack of active KTT structures puts ULL scientists at a disadvantage concerning funding opportunities from EU but also from national funding programs.

## **2. Review aim and process**

Aim of the two day visit and reviewing process was to analyze the knowledge and technology transfer infrastructure at Universidad La Laguna (ULL) and to understand what PIs', scientists' and the managements' expectations from knowledge and technology transfer are and to formulate recommendations for a future CIBICAN KTTO.

The recommendations in this report shall enable CIBICAN management to create a sustainable and successful KTT structure that might also be exemplary beyond implementation at CIBICAN for the University, the hospitals and possibly also for other Canary Islands. The recommendations include and are mostly in line with previous recommendations regarding a KTT structure for CIBICAN. The results from the interviews and the workshop suggest extending the tasks for the KTT over and above the original planned content and capacity.

## **2.1 Workshop(s) with CIBICAN and KTT management and staff**

A three hour workshop was conducted on 19 January 2015, together with Rafael Alonso Solis, Randolph Revoredo, Jose Manuel Padron and Sebastian Jiménez Reyes. The same group finished the review with a wrap-up meeting of 1,5 hrs on 20 January 2015, in which the major findings were presented and discussed, together with concrete recommendations and plans to structure a new KTTO.

The workshop was prepared by information provided from CIBICAN on their current KTT structure and statistics on the KTT status at present and in the past, requested by the reviewer (see appendices). This included, amongst other information, number of patent applications and patents, licensing deals, spin offs, research volume, PIs, patenting strategy, geographic protection, KTTO structure etc. (see appendix 1) at University of La Laguna.

### *Participants:*

**Rafael Alonso Solis** MD, PhD: IMBRAIN coordinator, director of the ITB and head of CIBICAN, Professor of Physiology/ULL

**Randolph Revoredo**, MBA: General Manager of the Bioavance Foundation. The mission of the foundation is to support the creation and funding of CIBICAN

**Jose Manuel Padron** PhD: Past-Director of the ULL Oficina de Transferencia de Resultados de Investigación (OTRI). Associate Professor of organic chemistry/ULL and part of the Project Management Team of IMBRAIN

**Sebastian (Chano) Jiménez Reyes** PhD: Innovation & IPR manager/IMBRAIN

## **2.2 Interviews with CIBICAN scientists**

Additionally eight interviews with scientists (PIs) of 40 to 45 minutes were conducted during 19. and 20 January. These PIs were:

- Aroceli Morales (Pompe Disease)
- Miguel Fernandez (in silico drug design and computational chemistry for rare diseases)
- Romen Carillo (drug carriers)
- Teresa Giraldez (Epilepsy)
- Eduardo Salido (Hyperoxylurea)
- Carlos Flores (prognosis/diagnosis in complex diseases, using deep sequencing)
- Tomas Gonzalez (neurodegenerative diseases, Parkinson, also Huntington disease)
- Esteban Porrini (renal function test)

### 3 Results and information from interviews

The main questions to interview partners were:

- Do you believe that KTT is necessary?
- How do you perceive your technology transfer support at present?
- What are your concrete experiences with KTT at ULL?
- Are there any particular, concrete problems or challenges with your technology transfer office?
- What are your expectations from KTT in general?
- What do you expect from your KTTO?
- How far are your expectations met – in the past/presently?
- What does your ideal knowledge and technology transfer look like?
- What do you believe are the most important tasks of a KTTO?

Each interview was scheduled for 40 minutes and had a more or less identical format. In general the scientists introduced themselves, explained their role at the University and within CIBICAN, gave a short overview of their work and were asked in general the same questions, except where there was need for individual expanding on particular challenges or opportunities. From a KTT point of view it was positive that all interviewed scientists were convinced that they need KTT. Not so uniform was the response in terms of their satisfaction with the KTT at University level and on project level.

Also from the data collected and from the results of the interview, a KTT structure has crystallized which will cover the mid- and long-term expectations of scientists and management of CIBICAN and which could be sustainable and provide all options to be successful.

The results of the interviews are listed (no clearance of duplications/multiple mentions) without disclosing identity of the individual interview partners.

According to the interview partners, KTT should

- provide a pool of information on
  - o Intellectual Property (IP) and IP law
  - o project development
  - o funding sources
  - o relevant law
  - o fields of interest of relevant industries and companies
- invite industry, so scientists can learn what is interesting and relevant to industry and how they could alter e.g. the focus of research projects to be more relevant in terms of applicability to the benefit of society
- help to make contact to relevant industries (partnering competence)
- support the identification of potential partners
  - o in academia but also and in particular
  - o in industry for research collaborations
  - o patient interest groups for collaborations and funding
  - o charities and foundations
  - o corporate funds and other sources of private sector funding

- manage, write, check MTAs and CDAs
- find licensing and co-operations-partners
- negotiate, close and follow up agreements (licenses, co-operations, options, commercial MTAs etc.)
- provide services for consulting work of scientists (contracts, negotiations, billing, offers etc.) to industry
- support PIs in directing research to be relevant and create impact (usually after a certain stage)
- support to find alternative funding: charities, patient interest groups, industry etc.
- transfer knowledge to gain economic value and social meaning
- analyze research projects and results for relevance in terms of application and commercial potential
- provide legal support
- make recommendations on protection of results (IP rights: patents etc.)
- manage IP
- help to create and select high potential projects (scouting)
- support project development aiming at risk reduction and linkage to application/industry/market
- support scientists to make their research relevant to society and to the benefit of patients
- help to 'point' projects and research in to the right direction (towards impact)
- support spinoff culture
- provide services to coach founders in spe and founders
- provide incubator facility
  - o coaching
  - o space and equipment
  - o legal support
  - o infrastructure (administrative services)

Interestingly the above list covers almost all relevant tasks of KTT in an academic setting. Many researchers showed a clear interest in recommendations to help their research to maximize impact to the benefit of patients. Some scientists said that they would be happy to change the focus of their research if they knew that re-directing their research would create more impact and more relevance for patients (and more funding).

Surprising and highly relevant were particularly two findings:

- Most scientists emphasized that they would welcome a service of the KTTO that would support their consultancy work with industry by writing offers, billing, making consultancy contracts, take over legal and liability (insurance) questions, negotiating and closing contracts, so that the scientists could concentrate on their actual work, including consultancy for industry. In some cases the money produced from such consultancy is actually utilized as funding for research. A possible model to do this efficiently might be to provide all consultancy services through the KTTO or a consulting service company (spinoff from KTTO/CIBICAN; 100% subsidiary), which could be financed by a thirty to forty percent administrative fee on top of the consultancy fee (separately or priced in).

- The second and possibly most surprising result from the interviews was the attitude towards spinoffs and entrepreneurship. Until now the impression of the reviewer was from previous conversations with management, KTT and advisors that there would be neither interest nor potential from scientists' side in spinoffs and entrepreneurship. The interviews uncovered a diametric result. There was a very strong interest in spinoffs and startup know how and several scientists (three from eight) contributed ideas concerning their own work for founding companies. Several hurdles for an entrepreneurial culture were identified, mainly a lack of infrastructure and processes to support startups and also a lack of competence within ULL and CIBICAN to deal with spinoff ideas and to found startups.

Though the impression is likely correct that CIBICAN has neither the critical mass nor the environment to spin off companies in the near future that will be fast-growing and justify or attract venture capital, there was considerable interest in funding smaller, sustainable service and product companies. Three of the eight researchers' interviews justify hopes that small companies could be founded within the first/next five years if they would receive professional and sufficient support. To this aim it might be necessary to provide this support in part externally because CIBICAN has presently neither structure nor capacity to support the entrepreneurial spirit from within. Although the three business ideas are very different in nature, they have in common that they i) are rather limited in terms of potential growth and size, ii) need no or hardly any investment to get started, and iii) will hopefully be able to grow from within. The first idea concerns a core task of a KTTO but could be set up for a number of reasons as a separate business entity (as it is at some KTOS).

*Business Idea 1: Consultancy services for PIs*

This could be a 100% subsidiary of CIBICAN or also be managed from within. The company/section would be managed and controlled by the KTTO and basically commercialize the consultancy potential of the CIBICAN researchers and particularly PIs. This means that all consultancy work would be branded under the label of CIBICAN, all administrative work connected to the consultancy work would be taken over by that unit (tenders, offers, invoicing, reporting, fine-tuning reports, liability insurance, tax issues etc.). The office would charge a 30-40% overhead on all works and thus could work as a profit center. The profits would provide a supplementary income to the KTTO of CIBICAN.

*IDEA 2: Measuring renal function in clinical trials:*

A group at CIBICAN is capable of measuring renal function utilizing the gold standard method. Already the group is selling this service in small scale to companies that do clinical studies. In a spinoff company these services could be professionalized, marketed and extended, starting within the premises utilizing/renting equipment and space from the university. The newco could be owned in part by CIBICAN Foundation and in part by the founding scientist(s) and the newco management. It is likely that the newco could provide also other analytical services to the surrounding hospitals and expand its service platform by providing other tests and services. There is a very realistic chance that such a company could soon turn over several 100 k€ per year, employ its own staff and be independent from CIBICAN within a few years.

*Business Idea 3: Green Vitamin C production*



A scientist has in a previous employment identified a 'green' method to extract Vitamin C from orange peels which are a waste product on the Canary Islands. The IP could potentially be revived, integrated into CIBICAN and form the basis of a company that could develop that technology in collaboration with that spinoff. This does, of course, need deeper analyses and an initial rough business plan before it can be considered to execute that idea.

However, there seems concrete potential and also willingness to create new companies. It is necessary to provide competence in supporting the setting up of companies and also to provide space and infrastructure by CIBICAN and its KTTO. To provide this in an instant, outside expertise in creating spinoffs and also local legal advice are necessary.

Anecdotal evidence from interviews has shown that the current technology transfer structures are not delivering sufficient value to scientists. Particularly the lack of empowerment seems to lead to unacceptable delays in e.g. processing MTAs or any other kinds of contracts. This is not to say that scientists did not accept that it is necessary to thoroughly negotiate collaborations with industry but that e.g. inter-academic MTAs, in which neither money nor IP changes hands or was concerned, were delayed for months because they simply do not get processed, seemingly through a lack of structure and processes within the university.

Another uniform topic was that all scientists expect to be supported in application for grants. In European programs under Horizon 2020 but also in programs of e.g. the Wellcome foundation, impact of the research projects to the benefit of society is of utmost importance. It is not sufficient to prove the relevance of science only in publications but also and in particular to show what the impact of results from a project is on economy and how society benefits from the results of a project.

At this juncture scientists would like to receive the support from their KTTO, not only to meet the requirements of the grant provider but also support the scientist to direct his research to maximize the chances to receive a grant with the science he wants to do. This is the door opener for a win-win situation because it lends opportunity to the KTTO to prove their use very directly to the scientists and at the same time to channel research projects at a very early point in time to maximize the chance for relevant results in terms of economic and other benefits to society, thus helping the KTTO to achieve its aims more efficiently. As there is a large consensus that a competent support should be provided amongst scientists and CIBICAN management, and as that consensus extends to anchor this competence in the KTTO, this leads necessarily to consequences for the structure and capacity of the CIBICAN KTTO.

The results from the interviews also showed that it was important to get support to find alternative funding and collaboration partner within but also and in particular, outside academia. In this context it was most frequently mentioned that there are upcoming and new players in the funding segment that are not accessed by CIBICAN or the Universities, such as charities, patient interest groups, charitable funds and TT funds. To supply an overview of such options is certainly one task of the new KTTO.

To measure the KTTOs success in this field one parameter could well be, how many grants are accepted with impact relevance that are/were supported by the CIBICAN KTTO and how much

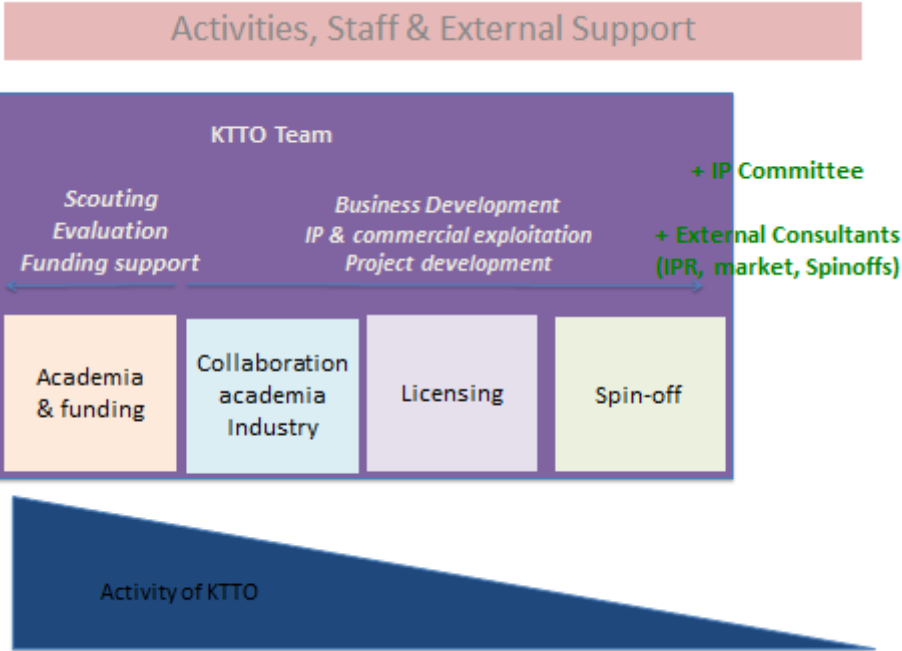
funding is coming into CIBICAN through this work. This requires not only the re-definition of the tasks of the KTTO, but leads to consequences for its financing and competence. The IP council, as planned originally, is still necessary but its tasks might need to be expanded or the capacity and competence profile of the KTTO should be extended.

Captured in an allegory, knowledge and technology transfer at CIBICAN could be structured like responsible forestry. At one end results can be captured and commercially exploited while at the other end new ideas are planted in new grant projects that are already channeled to grow into projects that are relevant to society. Finally the revenues are collected through the commercialization of the assets developed through CIBICAN’s KTTO and its scientists, thus closing the circle of value creation.

**4 Recommendations for a new KTTO**

In the view of the advisor several findings require changes from the current KTT model. One is the very strong need for funding advice, which is not only a challenge that was not considered previously but also a great opportunity to structure science and ideas towards impact for the KTTO. The second is the keen interest of interview partners in entrepreneurship. Presently this is also not reflected in the current KTTO model.

Also it is worth glancing at the likely distribution of activities of a future KTTO. Commonly it is expected that most work is spent on securing, managing and exploiting intellectual property. This is not the case in most of the KTTOs and also it is very unlikely for CIBICAN’s KTTO. Much more time will be likely spent on project development in the broadest sense, starting with identifying funding opportunities, seeking and establishing co-operations, risk mitigation for projects and so on.



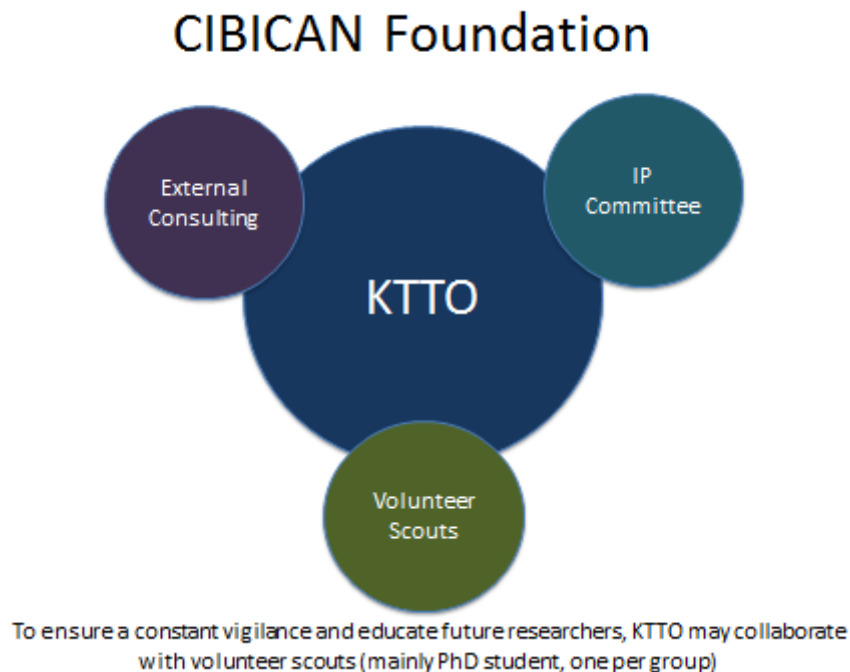
Distribution of activities at CIBICAN KTTO (SJ Reyes and CA Stein)

The above findings need to be reflected in the structure, capacity and competence of a novel KTTO model. CIBICAN KTTO will need:

- A small incubator opportunity for entrepreneurs from CIBICAN. This shall not mean that a own building or parts of a building shall be dedicated exclusively to an incubator function but
  - that rental space shall be made available for new companies
  - that the CIBICAN administration needs to provide competence in dealing with embedding and embedded small enterprises, at least for a limited time of one up to three or possibly five years
  - that, as in most incubators, some functions should be provided as shared services:
    - administration and secretarial services
    - book keeping
    - financial services
    - conference rooms for meetings etc.
- Competence in several subjects needs to be provided, partially by KTTO staff, partially by outside service providers, which are
  - a broad and always up to date knowledge of grant opportunities and alternative funding opportunities within Tenerife, Spain, other European and overseas countries (Wellcome/UK; NIH/US, charities patient groups, corporate funding and co-operation opportunities, venture capital etc. pp.) and the European Union (Horizon 2020), including competence to support applying for such funding opportunities.
  - knowledge on how to fund companies, particularly in Tenerife
  - knowledge how to commercialize spinoff companies (equity and deal structures), commercial law and also
  - how embedded newcos work and live in an embedded incubator structure (corporate governance, rules and regulations, cost model etc.).
- Capacity and competence in terms of staff that can provide advice needs to be provided.

#### 4.1 Structure of a new KTTO

The new KTTO shall be embedded, to start with, as integral part of CIBICAN. The KTTO itself consists of several components that will work in close collaboration.



The components of the new KTTO within CIBICAN (graphics by SJ Reyes)

It might be worth pointing out that the funding advice is not to be mixed up with the management or administration of funds. There is neither need nor particular advantages in connecting these two functions. The first shall and need to be part of the KTT unit of CIBICAN, the latter is part of the normal day to day financial administration and controlling of CIBICAN.

One aspect should also be kept in mind, and that is that the office does not need to deliver all service from within. In some instances it would be more efficient to use third parties and contractors:

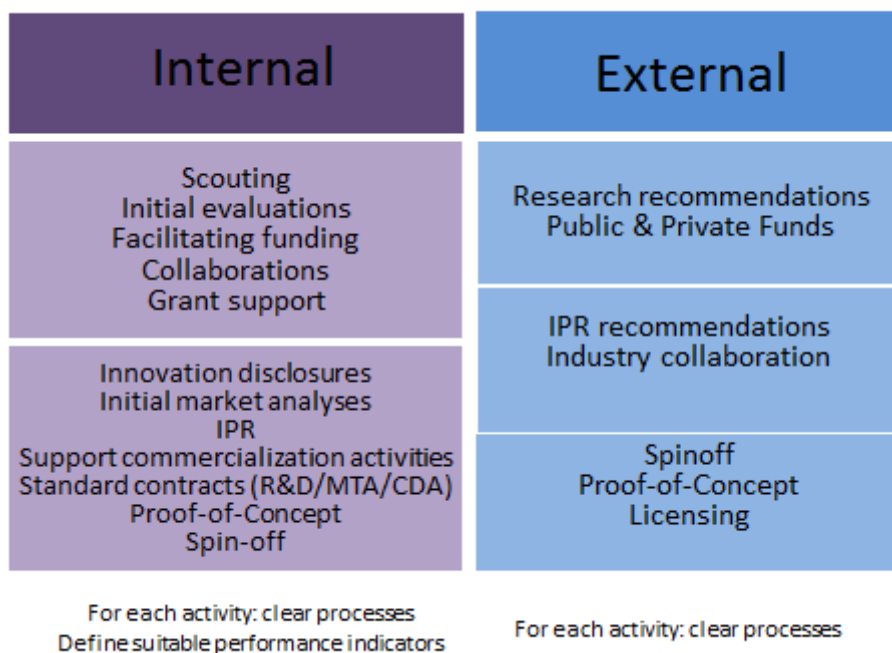
- analysis of invention disclosures
- IP protection strategy for particular projects
- Coaching companies
- business plan writing etc.
- project development

In the same breath this requires certain tasks to remain at the KTTO:

- scouting for and discovery of interesting projects and results
- collecting and completing invention disclosures together with scientists
- managing IP portfolio, including
  - correspondence with patent lawyers

- patent budget control
- communication to IP advisory board
- communication and controlling of all advisors and contractors
- advising scientist on funding opportunities
- prepare, negotiate and control CDAs, MTAs and collaboration agreements
- prepare technology offers
- follow and implement advice of
  - IP advisory committee and
  - Contractors / consultants
- support founders
- Engage and control commercialization process if third parties are used to negotiate & advice

Third party advisors have the advantage of making arm lengths negotiations easier and also protect the interest of the KTTO staff itself as they can generally be used to bring in some objectivity into e.g. negotiations with industry. They are also not conflicted by interests of scientists to receive e.g. funding for additional staff. Also they are not partial to apply for patents or not for any other reason than commercial gain. Finally, they provide capacity that is not part of CIBICAN KTTO background and experience.



Task distribution between CIBICAN KTTO and its external components (by JS Reyes and CA Stein). At several activities both, internal and external components will be needed. For these it is essential to provide workable processes to avoid redundant work and conflicts.

This does not mean that the KTTO and management do not need to be controlled. This is task of the KTTO in close collaboration with its management.

#### **4.2 Documents needed for a CIBICAN KTTO**

- A handbook of all processes within the KTTO shall be written bit by bit and updated on basis. Documents within this process and book shall cover subjects, such as:
  - Checking invention disclosures for completeness
  - Sample for invention valuations and analysis
  - Rules and processes for negotiations (licensing)
  - Writing technology offers
- Rules and regulations for scientist entrepreneurs (including rights to return)
- Conflict-of-interest management and rules
- Targeted public relation and information material for
  - Inventors
  - Industry (e.g. information on technology offers and spin offs/services)
  - Entrepreneurs and founders
  - Peer groups (reports, success stories etc.)

Not all of these documents will be needed outright from the start. In some cases it will even not be possible to develop these straightaway.

#### **4.3 Staff and budget of a new KTTO**

This KTTO if implemented will be likely a long-term cost on the CIBICAN structure. It clearly aims to bring out as many results into application for the benefit of society as possible. Therefore it is necessary to measure its performance according to the aims set for the KTTO and not by the easiest and most obvious parameter, just counting revenues from patent licensing.

Other important performance indicators are:

- Uptake by scientists
- leveraged funding
- alternative funding income
- turnover of products that were initiated by CIBICAN research
- number of companies (survival min. 3/7 years)
- employees in spinoff companies
- turnover of spinoffs

The annual costs of the KTTO are estimated very roughly at 150 to 250 T€ p.a. for staff (team of two, plus costs) plus IP portfolio costs and consulting services. As the reviewer is not aware of cost structures for staff and infrastructure, this can be only a very rough estimate.

The committees (IP) and advisers should have one f2f meeting per year to optimize processes and also to build trust between the partners and, if possible, to the science base.

All staff needs to receive further professional training. To this aim all staff shall qualify as RTTP (Recognized Technology Transfer Professional by ATTP). Recognized training to achieve this can be obtained through ASTP-Proton, Praxis Unico and other partner organizations of ATTP.

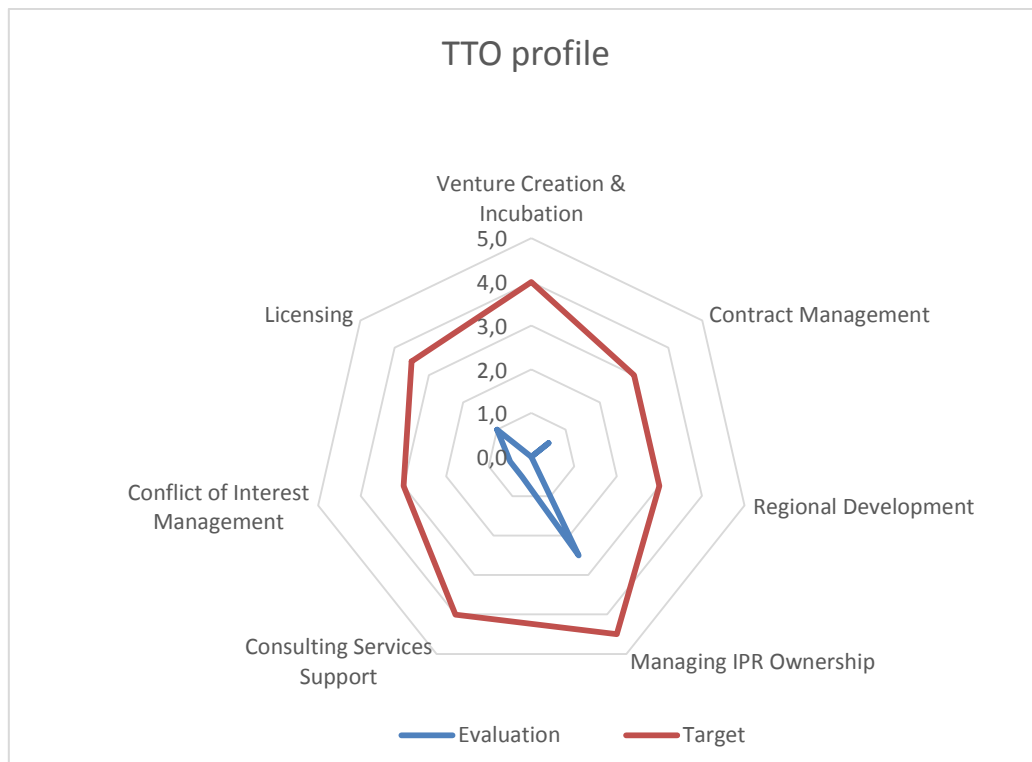
#### 4.4 Key Recommendations

#	Recommendation
1.	Invention Capture
a	Encourage CIBICAN to create visibility of sponsored research and consulting activity
b	Encourage CIBICAN to establish contracts management function for above activities
c	Proactively seek non-patent IP (research materials, copyright) with potential for immediate transaction
2.	Evaluation / Decision Making
a	All staff should be capable of carrying out preliminary analyses of invention disclosures
b	Establish an implement processes to work with the 'outside': distribute tasks; clarify expectations
c	Establish balanced criteria for project selection which values licensable IP as well as IP with start-up potential
3.	Staff Management
a	Minimalize management; all staff needs to be in operations; management by function; keep hierarchy flat
b	Connect responsibility and empowerment
4.	Finances and Funding
a	Establish firm funding basis and business plan for a minimum of five years
b	Secure financing for TTO for greater sustainability/ scalability of activity midterm

#### 4.5 KTTO Outlook and Profile

	Helpful (to your objective)	Harmful (to your objective)
Internal (within organisation)	<p><b>STRENGTHS</b></p> <ul style="list-style-type: none"> <li>• Solid to excellent science base</li> <li>• High interest and enthusiasm of researchers in KTT</li> <li>• Flexible and agile structure</li> <li>• Strong, well defined processes</li> <li>• Clear focus and objectives (deals)</li> <li>• PR capability</li> <li>• Reputation (regionally, nationally)</li> </ul>	<p><b>WEAKNESSES</b></p> <ul style="list-style-type: none"> <li>• No current KTTO</li> <li>• No licensing income</li> <li>• No spinoffs</li> <li>• No midterm-financing base for KTTO</li> <li>• Not much experience in transactions and project development</li> <li>• Uncertain connectivity to other academic institutions (hospital) IP</li> </ul>
External (outside organisation)	<p><b>OPPORTUNITES</b></p> <ul style="list-style-type: none"> <li>• Development of sponsored research contract management</li> <li>• Management of consultancy services</li> <li>• No existing KTTO structure at University and other institutions</li> <li>• International networking with other KTTOs</li> </ul>	<p><b>THREATS</b></p> <ul style="list-style-type: none"> <li>• Funding base does not presently exist</li> <li>• Insufficient commitment to technology transfer and its costs by University</li> <li>• Time to commercial success might be very long, or even never come</li> </ul>

SWOT-Analysis of present status concerning KTT



Spidergraph (top) and evaluation-table (below) (categories form 1-5 in.5 steps) on future potential (target) and reviewer's evaluation of major KTT activities (T Förster and CA Stein)



<b>Category</b>	<b>Evaluation</b>	<b>Target</b>
Venture Creation & Incubation	0.0	4.0
Contract Management	0.5	3.0
Regional Development	0.0	3.0
Managing IPR Ownership	2.5	4.5
Consulting Services Support	0.5	4.0
Conflict of Interest Management	0.5	3.0
Licensing	1.0	3.5

The profile is constructed using a number of categories of activity that a typical TTO might perform, although there is much variation in the responsibilities that individual offices fulfil depending upon the institution(s) that they serve. Scores are allocated between 0 and 5, where 0 signifies no activity and 5 signifies intense activity. The profile for KTTO comprises scores provided by the reviewer for the current performance of KTTO (evaluator scores), and for the future potential of the KTTO (target scores), assuming that target scores of 5 may not automatically be desirable for each activity in a balanced TTO.

## **5 Report Information**

The review of Universidad La Laguna's CIBICAN KTT structure was contracted by CIBICAN to Ascenion GmbH. The report results from a visit the University of La Laguna/CIBICAN from 19./20. January 2015 and several interviews with the management and staff on site. The report was compiled by

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12. February 2015

## **Appendices: Materials supplied in preparation**