

ANNUAL REPORT

Technology Transfer Office
Erasmus MC

2013 - 2014

PREFACE

For Erasmus MC, 2014 was the first year in realizing our long-term ambitions, which are formulated in our strategic plan, “Course18”. One of these ambitions is to incorporate and implement an active strategy towards the valorisation and internationalization of our core activities. Valorisation and internationalization are clearly linked to all elements in our mission statement: ***“Erasmus MC is committed to a healthy population and excellence in healthcare through research and education”***.

I am extremely pleased to see that our “Course18” has been recognized by the team under the new director. By defining its new mission, TTO perfectly fits within the Erasmus MC vision of being a ***“recognized leader in innovations for health and healthcare”***.

The way TTO uses internal communication in order to create awareness for their supporting role in the creation of valuable innovations was the most noticeable change for me.

It is also promising to see that TTO is developing a new view on valorisation and value creation. Added value is not only visible in royalty income or number of signed license agreements, but also in improved negotiation tactics and creating a level playing field between commercial parties and our faculty.

While 2014 was being used as a baseline for this new view (as is reported in this annual report), we all are curious to learn how this new way of reporting will develop in the near future, starting with next year’s annual report.

Last but not least, I am convinced the whole TTO team will earnestly advance on its journey to make TTO a recognized and central meeting point for innovations and valorisation both within and outside Erasmus MC.

Prof. dr. Jaap Verweij, Dean / vice chairman Erasmus MC



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INTRODUCTION

2013-2014 was a period of considerable changes for TTO. By mid-2013 TTO returned to the faculty building (EE-3rd floor), became understaffed and overstressed with work, lost its director, and some rumours became apparent of the *raison d'être* of a TTO as a stand-alone department.

In November 2013 an interim director and an interim legal counsel were appointed. In this period, many of the open files were followed up on and the backlog diminished.

Finally, in August 2014, a new permanent director was appointed. With his appointment, the structure and focus of TTO were redefined, and adjacent to that the style and communication were also improved.

However first and foremost, TTO changed its mission statement:

Our Mission is:

- to promote valorisation of findings by fostering the interaction of Erasmus MC's inventors with academic institutions, funding organisations and industry,
 - to secure ownership thereof, and
 - to disseminate these findings,
- thereby creating societal exposure, economic value, and income to invest in further research, better education and excellent patient care.

The new mission not only describes the focus of TTO but it is also clearly linked to Erasmus MCs long-term strategy as described in Course 18.

Next to the mission, the TTO website (<http://www.erasmusmc.nl/tto/>) was also updated and brought in line with the three elements of the mission, with ample attention to the different departments and topics (Business Development, Legal, Grants), and its separately organized activities in Erasmus MC Incubator and Erasmus MC Holding BV.

Style and communication are a cornerstone of the positioning of TTO as a service department within Erasmus MC. As shown in Table 1, there is a clear increase of activities in communications in 2014 over the numbers in 2013.

Table 1: Communications

	2013	2014
Internal awareness sessions	0	4
(International) visits and events hosted	3	5
Valorization activities	2	5
Conferences attended	3	2
(International) Presentations	0	0

Table 1:

Internal awareness sessions: these sessions are important to show what TTO is, and how TTO can add value to the researchers as described in the mission. Although only 4 meetings were organized in 2014, these all took place in the last quarter of the year.

International visits and events hosted: TTO is also managing the Erasmus MC Incubator. There is a clear wish from international organizations to visit us and to learn how Erasmus MC has set up and manages its Incubator. Therefore, the Incubator is often requested to host (international) visits: In 2013 an international delegation from Latvia and Sweden visited the Incubator. We also arranged for Alderwoman Baljeu (Economic Affairs Rotterdam) to have a lengthy discussion with representatives from all high-tech start-ups in the Rotterdam Science Tower. Our labs were also used for the Dutch tv program "Proefkonijnen". In 2014 the new Alderman, Struivenberg (Economic Affairs Rotterdam), Brainport Eindhoven, and delegations from China, Croatia, and Sweden visited the Incubator.

Valorisation activities: With communication alone valorisation will not take off. It is also necessary to develop and organize events where people who are key in the valorisation process meet and have the possibility to exchange their views and ideas. In 2013, both the first "... Meets Science" and the first "Europa Kijkdag" were organized in collaboration with the Erasmus MC Incubator. In 2014, 5 valorisation activities were organized: 2 events under the umbrella-title: "... Meets Science": 'Business Meets Science' and 'Vitality Meets Science'; Erasmus MC Incubator organized a meet-and-greet lunch twice for the companies in the Incubator and partners in the Rotterdam Science Tower; and finally, the Incubator was partner at the "Europa Kijkdag".

TTO continues to be the administrator for several subsidies that need to be carefully administered and have a link to innovations and inventions.

- **WBSO** is a specialised tax ruling, where industrial funding of a project is subject to a tax-cut. Erasmus MC had a total of 100 projects in 2013 and 86 projects in 2014. Although definitive income over 2014 still needs to be specified, well over €1 million in income has been

accomplished during these two years (see also Table 4). TTO ensures the correct submission of projects within this subsidy, as well as all administrative necessities.

- **Octrooifonds** is the Erasmus MC fund for internal investments in Intellectual Property. The budget for the Octrooifonds comes from the Licentiefonds and is meant as a subsidy to cover part of the initial costs for the patent application process. When a patent is licensed or leads to revenues for Erasmus MC in any other way, this subsidy is refunded.
- **Licentiefonds** is an administrative Erasmus MC fund for any and all income (royalties, milestones etc.) related to technologies that are currently licensed out. This fund is administrated by TTO, but controlled by the Dean, and its income has previously been used for special projects, such as funding of the Erasmus MC Incubator.
- **EFRO** is a subsidy, allocated by the European Fund for Regional Development, used to partly fund the Erasmus MC Incubator in the Rotterdam Science Tower.
- **Valorisation Programme Rotterdam (VPR)** is a consortium of, among others, Erasmus University Rotterdam, InHolland, Hogeschool Rotterdam, Albeda College, and Erasmus MC, which runs from 2012 until 2017 to disseminate knowledge from the knowledge institutes into the economy and society. The ministry of Economic Affairs subsidises the Valorisation Programme Rotterdam with €5 million. Although the Board of Erasmus MC is responsible for this programme, TTO is requested to define and implement the activities that the board has accepted and agreed upon. These activities span the wide range of scouting, screening and valorisation of innovations in care.

In earlier years only top level data were collected and administered. From 2014 some new administrative data have been collected and these will be used as new Key Performance Indicators (KPIs) to follow the development of the performance of TTO. These new KPIs give a better insight where we allocate our energy and where we may have room for improvement.

Unfortunately, while defining the new KPIs, we could not retrieve the same data back for 2013.

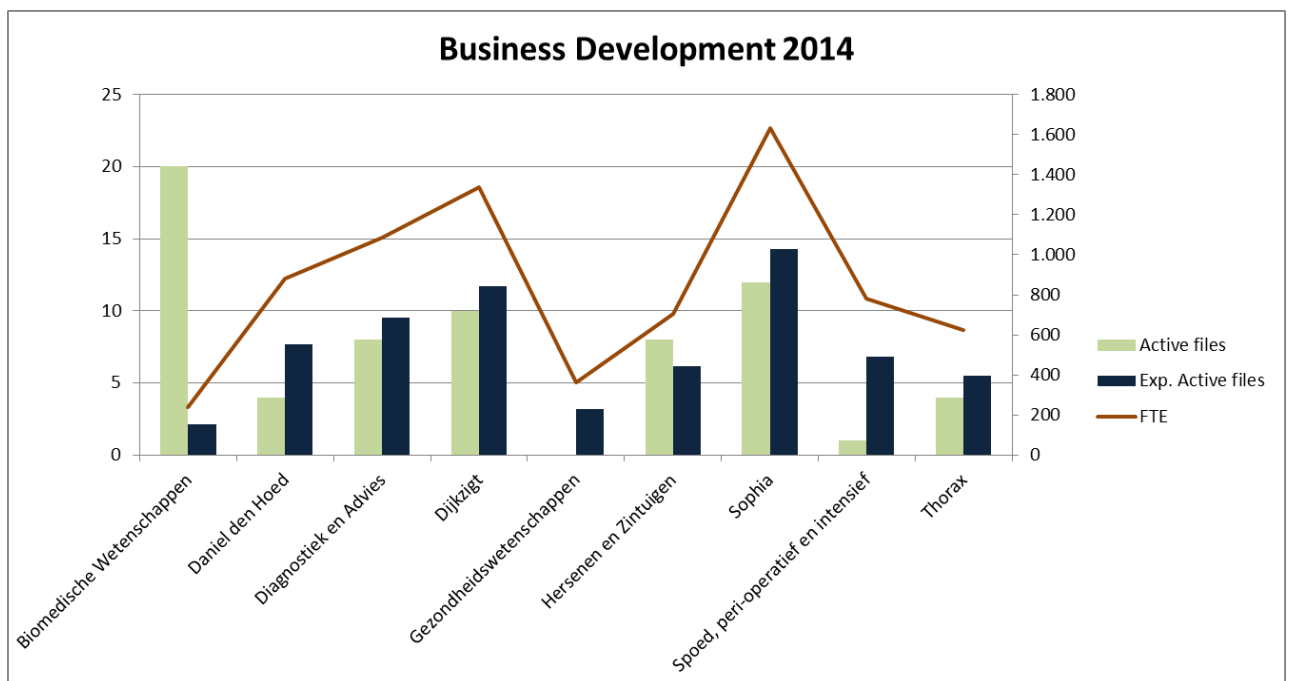
The activities of TTO as a service provider are presented to all Themes and department within Erasmus MC. Some Themes use services of TTO more often than others in relation to the relative size of the Theme: the more FTEs are employed in a Theme, the more inventions can be expected. To visualise this in relation to the activities of TTO for a particular Theme, the number of expected inventions and the activities of TTO are depicted in Figures 1, 2 and 3 as two separate bars per Theme. This way, we can also visualise where we may have possibilities to expand our services.

Note that the relation between the expected number of inventions and the realized activities for TTO may change from year to year, as generating inventions of course cannot be predicted up front!

BUSINESS DEVELOPMENT

At the beginning of 2013 the business development group consisted of 2,9 FTE, which decreased to 1,7 FTE in the early days of 2014. After August 2014 this number grew again to 3,5 FTE ultimo 2014. In Figure 1, the new representation of the business development activities is depicted. For instance, 'Biomedische Wetenschappen' is not a huge Theme, but it has generated many active files at TTO in 2014. Contrary to that, 'Gezondheidswetenschappen', slightly larger than 'Biomedische Wetenschappen', did not request for TTO support at all in 2014.

Figure 1: Business Development expected activities (blue bars) and realized activities (light green bars) as distributed per Theme, related to the relative size of the Themes in FTEs (red line).



Although the pressure on the business development group has been high in the course of 2013 and 2014, still quite an impressive output has been achieved as can be seen in Table 2.

With the extension of manpower in late 2014, the Business Development group has been able to already show an increase in some of the KPIs, especially for "IDFs signed": the number of signed Invention Disclosure Forms (IDFs) prior to August 2014 was 6: the same number was realized after August to December 2014.

Next to these numbers, some activities have also been started to realign the administration in the database system in use, leading to a clear and well-thought through business development process, from idea via an IDF up to a go/no-go decision on securing the ownership of the idea in a patent or otherwise.

Table 2: TTO-KPIs

KPIs	2011	2012	2013	2014
Invention disclosures	62	37	48	40
IDFs signed	11	8	6	12
Filed patent applications	15	13	9	9
Granted patents	15	12	5	4
Total patent (incl. applications)	172	163	129	113
License agreements	14	15	14	8
Licensing income	€ 2.2 M	€ 2.8 M	€ 2.5 M	€ 0.44 M
Spin-off companies	1	5	7	2

Table 2:

When an inventor contacts TTO to share his/her idea and this idea needs careful analysis, it is administered as an Invention (**Invention Disclosures**). When after careful first analysis (on novelty and on commercial applicability) it seems worthwhile to proceed and have it analysed by V.O. (our patent attorney firm), then an IDF is signed (**IDFs signed**). Following the analysis of V.O., a decision may be taken to file an application for patent protection (**Filed patent applications**). This protection enables us to start negotiations with (commercial) partners on the valorisation of such protected invention.

When the authorities have decided to grant the patent application (which may take years) we receive a confirmation (**Granted patents**).

The active monitoring of our patent portfolio is an on-going task so as to make sure that we only invest in patents and patent application that have commercial potential. The protection of inventions that have not been licensed-out, or that have entered into the national phase of the granting procedure without having been licensed, should be abandoned. (**Total patents**). This way we avoid the accumulation of a (too) large and expensive patent portfolio.

2014 was low in the number of **License agreements** being signed. The **Licensing income** has dropped significantly in 2014 due to the fact that for two license agreements with large royalty-income the final payments were made and no more royalties will follow from those licenses (see also 'financials'). However the collaboration with one of the two continues in a new partnership.

Spin-off companies are those companies that are being supported by TTO in their establishment.

To increase the visibility of the innovations, the business development group started to use the new TTO website and other communication tools by the end of 2014.

An example is the Non-Confidential Disclosures (NCDs), a sort of teaser based on non-confidential information of the technology to commercialise. These have been restyled to be more direct and clear for the potential licensee, and all are posted on the TTO website, on Flintbox and other specialised systems seeking industrial partnerships. By the end of 2014, a total of 8 NCDs in the new format were posted.

Another example to search for potential licensees and investors is the use of a professional networking platform such as LinkedIn. There, Erasmus MC TTO has opened a showcase page, linked to the corporate Erasmus MC LinkedIn site, where TTO aims at keeping its network informed on its commercial opportunities and business partnering activities.

Furthermore, the work processes of the Business Development Managers have been aligned with Legal in such a way that tandems of a Business Development Manager and a Legal Counsel work together on a project, from the start until a signed contract. The advantage is that there is more interaction, leading to better negotiations and a stronger position towards the partner (both internally and externally).

LEGAL

The Legal group not only creates the legal basis for all kinds of agreements related to innovation, inventions, licensing, collaborations, spin-off companies etc., but it is also involved in negotiations with partners especially in research collaborations and consortia agreements, which nearly always have an IP component. These agreements all serve a specific aim and some are more complex than others. As the Legal group provides services to the entire research community of Erasmus MC, the total number is high (see Table 3).

At the beginning of 2013 the group consisted of 3.3 FTE. Following some ups and downs, by the end of 2014 the group consisted of 4.3 FTEs (0.9 FTE is being paid for by other departments).

Table 3: Agreements reviewed

	2012	2013	2014
Confidential Disclosure Agreements	64	67	82
Grant /Consortium Agreements	122	105	106
Consultancy Agreements	14	40	46
Collaboration Agreements	44	47	36
Clinical Trial Agreements	103	93	132
Material Transfer Agreements	88	94	79
Other Agreements*	196	185	239
Total agreements reviewed	631	632	720

Table 3:

Our legal team handles an increasing number of contracts each year. The increase in agreements on confidentiality and consultancy is a result of better positioning of TTO. The increase in Clinical Trial Agreements has followed from having one legal counsel dedicated to this type of agreement.

: **Other Agreements consists of Lab-Service Agreements, License Agreements, Sponsor Agreements, etc.*

The similar distribution which has been made for the Business Development activities, can also be made for the Legal activities, and is depicted in Figure 2 for 2013 and Figure 3 for 2014.

As shown in Figures 2 and 3 both in 2013 and in 2014 'Diagnostiek en Advies' has been a large consumer of our Legal services, whereas 'Spoed, peri-operatief en intensief' had hardly any requests for Legal support in 2013 or 2014. To a lesser extent, the same holds for 'Gezondheidswetenschappen' at the one hand and 'Hersenen en Zintuigen' on the other hand.

While 'Sophia' was behind in 2013 compared to the expected number of activities, in 2014 this number was almost at a par. This trend can also be seen for 'Daniel den Hoed'.

Figure 2: Legal expected activities (blue bars) and realized activities (light green bars) as distributed per Theme, related to the relative size of the Themes in FTEs (red line).

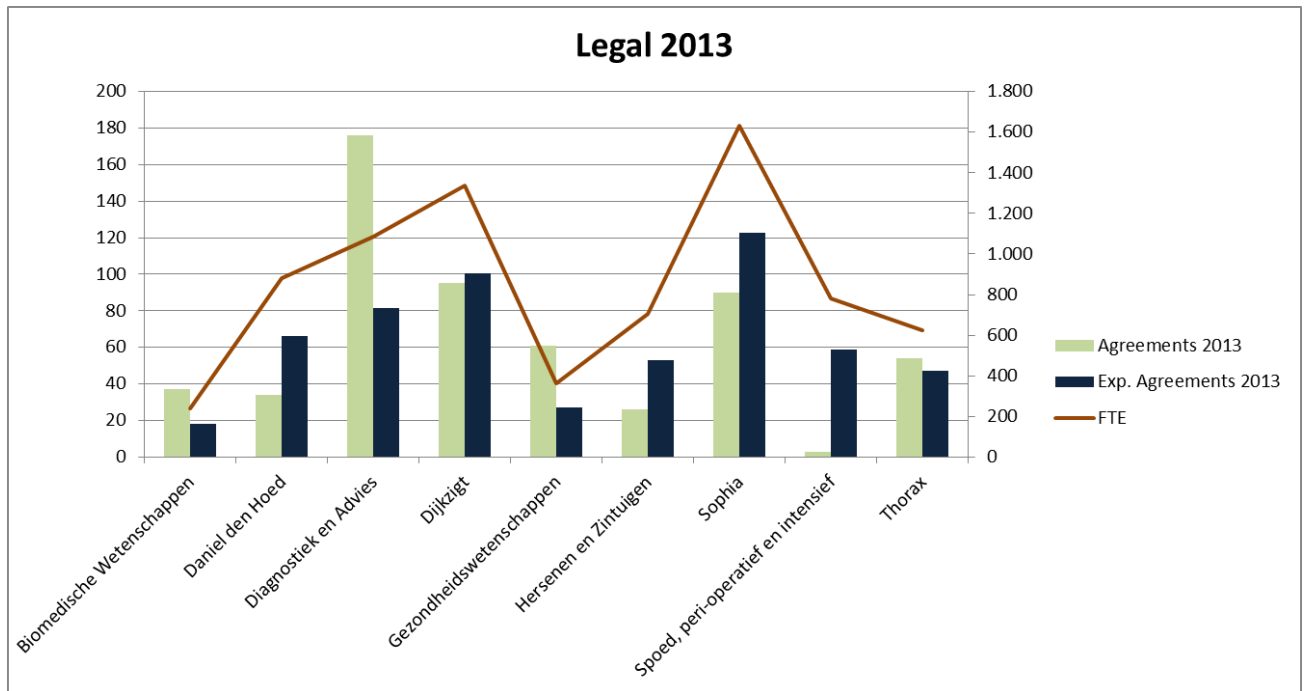
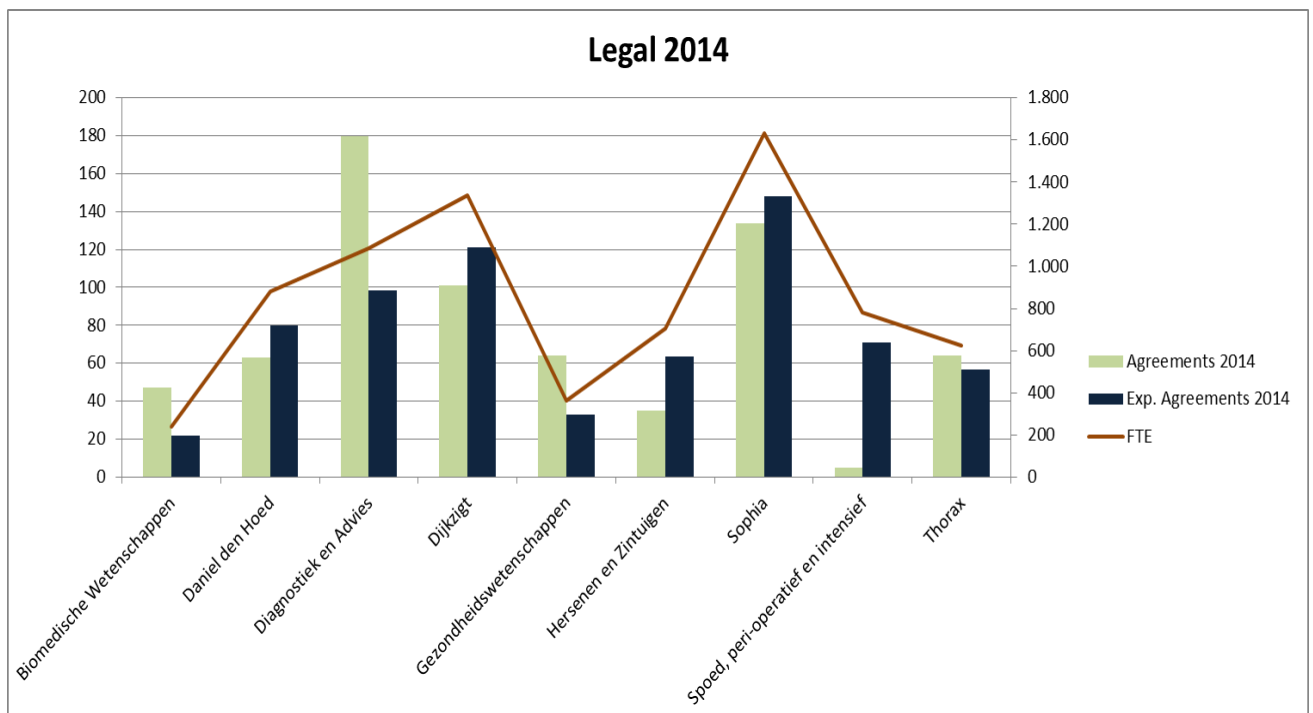


Figure 3: Legal expected activities (blue bars) and realized activities (light green bars) as distributed per Theme, related to the relative size of the Themes in FTEs (red line).



When Figures 2 and 3 are compared to Figure 1, some interesting observations can be made: 'Biomedische Wetenschappen' is a large consumer of Business Development activities, but is low in number of Legal activities. A possible explanation for this observation is that many of the initiatives of 'Biomedische Wetenschappen' do not reach the level of contracting. This is actually logical as 'Biomedische Wetenschappen' is heavily involved with fundamental research and therefore creates many new ideas, which are not deemed viable after first evaluation by Business Development. The opposite observation can be made for 'Gezondheidswetenschappen': while they made use of the Legal services more than expected, in 2014 no Business Development activities have been initiated with them. A possible explanation is that the majority of the work of 'Gezondheidswetenschappen' is related to applied research and therefore to consultancy agreements and clinical trial requests, rather than on Business Development.

FINANCIALS

The budget for TTO that comes from central funding by Erasmus MC has considerably decreased over the past few years, as can be seen in Table 4.

Moreover, only 70% of the total costs of TTO is covered by this central funding. The remaining 30% of the necessary funding to cover TTO's costs comes from different sources such as WBSO-administration fees, EFRO-incubator management fees, VPR-funds, and incidental funding. These sources are shown in Table 4 as **Other Income**.

Table 4: Added Value by TTO

	2011	2012	2013	2014
Erasmus MC Contribution	€ 942.437	€ 855.943	€ 710.365	€ 710.349
Licensing Income	€ 2.200.000	€ 2.800.000	€ 2.500.000	€ 440.000
WBSO Income realized	€ 976.000	€ 676.000	€ 664.762	€ 502.745
Other Income*	€ 457.972	€ 297.767	€ 338.149	€ 295.968
Total added value for Erasmus MC	€ 2.233.563	€ 2.620.057	€ 2.454.397	€ 232.380

Table 4:

Total added value (calculated as **Licensing Income + WBSO Income realized - Erasmus MC Contribution**) of the TTO for Erasmus MC has been about €7,5 million over the past 4 years.

* **Other income** consists of external contribution to our TTO, this is not considered as added value as TTO uses this directly in its operations.

Looking at the classical way of defining 'Added Value', it can be stated that TTO's costs for the central budget vs. the realized income for the central budget, TTO's result is positive.

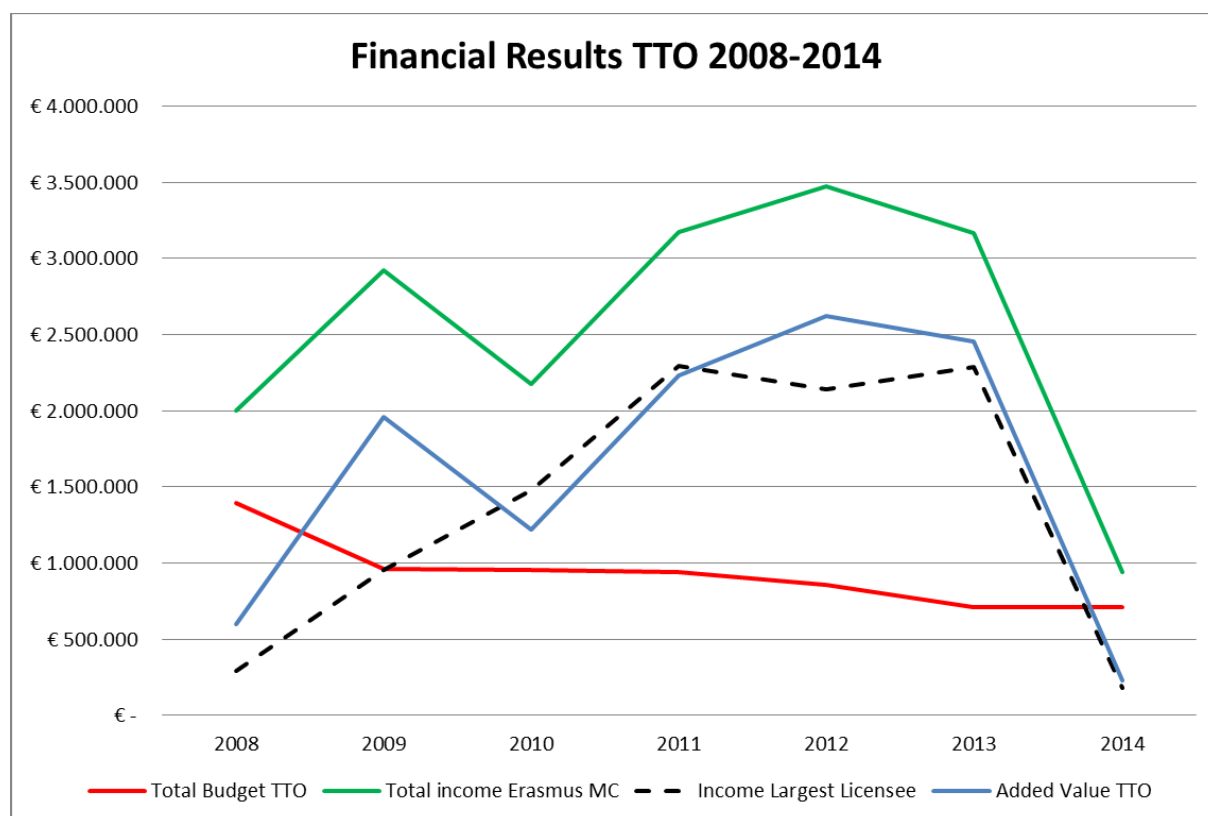
Figure 4 shows graphically the change in total central funding of TTO over recent years: the primary budget was reduced from almost €1M in 2009 to €710k in 2014 (red line in Figure 4). However, when looking at the added value (in financial terms), the contribution of TTO has been very positive over the last couple of years. However, this was very much dependent on two license agreements which generated a large royalty income. In the course of the 2008-2014 period, TTO's added value was over €14 M. It is shown in Table 4 above how added value is built up and which items contribute to it.

It is clear from figure 4 how important two very profitable license agreements have been for the positive result that TTO has generated. Both of these license agreements expired in 2013 and therefore no further income is generated from them. It is therefore understandable that the relatively high license income levels of the period 2008-2013 will not occur in the years to come. This is because the period between signing a license agreement and receiving a royalty income takes as long as 5 to 10 years, and we do not foresee huge royalty incomes from any of the license agreements currently active in our database.

Figure 4: this figure shows the added value by TTO.

Blue line: total added value; dotted line: royalty income from one of the two very profitable licenses; red line: direct funding from Erasmus MC to TTO; green line: total added value minus direct costs for Erasmus MC.

Note that in 2008, TTO’s responsibilities were wider and included also project financing and control. Therefore the budget of 2008 is not comparable with the years 2009-2014.



We are currently reviewing this definition of ‘Added Value’, as a significant portion of the added value by TTO comes from other sources than Licensing or WBSO Income.

‘Added Value’ is also achieved through TTOs assistance in a large range of other business development and legal activities. The team provides increasing support to negotiations of Investigator Initiated Clinical Trials, Consultancy/Service Agreements and Material Transfer/Research Agreements.

Since considerable time is spent by TTO on these agreements, we will be reporting on these items separately as from 2015 onward.

In addition, our Legal group supports Consortium Agreements and Grant Agreements, which have significant value to Erasmus MC, as depicted in Table 5.

Table 5: Income from Consortium Agreements (CA) and Grant Agreements (GA)

	2013	2014
Number of Consortium Agreements ("CA")	47	49
Number of Grant Agreements ("GA")	58	57
Total number of CA&GA	105	106
Total value CA	€ 223,005,778	€ 23,735,495
Value CA for Erasmus MC	€ 11,635,143	€ 5,080,690
Total value GA	€ 152,664,226	€ 43,764,745
Value GA for Erasmus MC	€ 25,606,076	€ 11,230,084
Total value CA&GA	€ 376,010,003	€ 67,500,239
Total value CA&GA for Erasmus MC	€ 37,241,219	€ 16,310,774

Table 5:

Table 5 shows the value for Consortium and Grant Agreements in 2013 and 2014.

There is no clear link between the value and the number of agreements, since each individual agreement has a completely different scope and background. The significant difference in income between 2013 and 2014 related to three major contracts signed in 2013 with a combined value of €180 million.

Financials are important but the impact of the work of TTO is not only measurable in numbers. Societal impact and value added to patient care are as important as economic impact. These items are much more difficult to measure, but we are happy to describe a number of projects in which TTO's input has been visible:

- Within the framework of the EU-FP6 Program, Erasmus MC's department of Immunology (Prof. Jacques J.M. van Dongen, MD, PhD) acted as coordinator of the EuroFlow research project entitled "*Flow cytometry for fast and sensitive diagnosis and follow-up of haematological malignancies*". The original EuroFlow Consortium consisted of eight research institutions in Netherlands, Spain, Portugal, Germany, United Kingdom, France, Czech Republic and Poland, as well as two companies (?in which countries). Most of the original Work packages were completed in the period between April 2006 and September 2009. After termination of the original research project, the partners continued their collaborative research activities. This is because they had agreed, in their original Consortium Agreement, that all results of the collaborative research efforts would be collectively owned. This enabled the parties to jointly license-out such intellectual property (IP) and thus generate jointly-owned revenues. In this way the EuroFlow Consortium has matured into an enduring international scientific research and development organization, which will be able to continue its work for many years. In the meantime the EuroFlow Consortium has expanded to 20 academic institutions and is now also developing new IP for diagnostic tools for several immune diseases. In the future the income may be larger than the original costs of the Consortium. From the beginning the EuroFlow research project was supported by TTO for legal advice and the establishment of a foundation (named European Scientific foundation

for Laboratory Hemato Oncology (ESLHO)) for the management of the joint interests of the Consortium.

- In early 2013, our TTO was informed of a new idea to improve the hand hygiene of medical workers who are in close contact with new born infants in incubators. This interesting idea rapidly developed into a prototype thanks to the fruitful collaboration with the Hogeschool Rotterdam. Neonates kept in an incubator, who are at high risk of developing bloodstream infections, will certainly benefit from this improved hand hygiene system. While students at the Hogeschool Rotterdam developed a prototype, the invention was also published in a bachelor's thesis. Maybe because of the overload of projects or the understaffing of TTO at the time, this publication was overlooked and therefore the potential patent protection of the idea was destroyed. Late 2014 the project was picked up again and TTO is now trying to support the team to further develop the invention with an industrial partner based on 'first mover advantage' and design protection.
- The Dutch Biomarker Development Center (BDC) is an initiative of Erasmus MC, University of Groningen (RUG), University Medical Center Groningen (UMCG), Radboud University Medical Center Nijmegen (RUMC) and Netherlands Organisation for Applied Scientific Research (TNO). The BDC focuses on biomarker verification and validation in a multi-centric setting involving highly specific, ultra-sensitive, high-throughput methodologies. This public-private partnership will greatly contribute to an improved early diagnosis of diseases, help select patients for personalized medical treatment and provide a sound basis for counseling. The kick-off meeting took place on November 20, 2014 and the TTO is strongly involved in giving support to Erasmus MC lead scientists for the correct development of this care initiative.
- In 2014, TTO got involved in the development of an App for the registration of treatments. It turns out that often doctors assist each other with all kinds of treatments, which turn out to be separate activities and should be registered as such. However, this is often forgotten, as the administrative pressure on the medical staff is already high. TTO licensed out this idea to iVentures who developed the App. The App is an easy to access, easy to use item of technology directly connected with the central administration system and supports a more complete administration and therefore generates a more accurate remuneration of all medical activities in the hospital.

ERASMUS MC INCUBATOR

The majority of the Erasmus MC Incubator's activities are related to support the companies that rent office and lab space at the Incubator, located in the Rotterdam Science Tower.

CardioGenx

CardioGenx experienced a big change in 2013. CardioGenx stopped the collaboration with its CSO Eric Duckers who moved from Erasmus MC to UMC Utrecht. As a result, 2013 became a transition year where CardioGenx managed the loss of the CSO and founder by hiring a senior scientist. In 2014 CardioGenx moved forward and hired a Bio-information and a PhD student.

A large clinical trial was set up together with the UMC Utrecht for the development of CardioGenx' lead product, Angioprnt. The study, including 400 patients started in the first quarter of 2015.

5 FTE at CardioGenx are working hard towards a validation of Angioprnt in the course of 2015.

SkylineDx

For SkylineDx the years 2013 and 2014 were very hectic. The predecessor of SkylineDx, Skyline-Diagnostics unfortunately went bankrupt in August 2013. In September 2013 SkylineDx made a new start with funding from Van Herk Investments. SkylineDx started with 6 employees, the IP of Erasmus MC and some assets were bought from the bankrupted company. Business at SkylineDx is now growing with initial orders for both the products: AMLprofiler and MMprofiler. SkylineDx, employing 21 staff at the end of 2014.

In 2015 the lead-product MMprofiler will be launched for clinical practice.

RiverD International

RiverD international started in 2012 with 5 employees and at the end of 2014 it had increased to 10 FTEs.

In 2014 RiverD introduced the 2e generation in vivo skin analyzer: gen2-SCA. Its turnover reached about €1M in 2013, profit €50k and about €1.5M in 2014, profit €250k.

Furthermore, in the R&D pipeline are:

- Raman guided surgery to improve results in oncological surgery

RiverD is closely involved in the development of Raman technology for intra-operative inspection of tumor resection margins.

Surgery is still the mainstay of cancer treatment for most forms of cancer. Advanced imaging techniques are available prior to surgery, which help to locate the tumor. These are not useable in the operating room, where the surgeon must rely on his hands and eyes. This leads to poor surgical success rates, in terms of incomplete tumor removal, necessitating adjuvant therapy and negatively affecting prognosis.

- Screening for Atopic Dermatitis (AD) risk

An estimated 10% of the general population carries a gene mutation, which strongly predisposes for development of AD. RiverD is developing a simple dedicated non-invasive Raman device, suitable for quick screening of subjects for this mutation.

The Erasmus MC Incubator is also important for the organization of numerous other activities that are related to TTO in general. There are many international activities for which TTO input is required, and the Incubator is used to host these activities (see INTRODUCTION).

Because of the unique atmosphere at the Incubator, external relations of TTO very often request the use the Incubator for their own activities.

ERASMUS MC HOLDING BV

Erasmus MC Holding BV is fully owned by Erasmus MC and manages Erasmus MC's participations in spin-off companies, which are related to knowledge valorisation, care and/or externally financed projects. The goal of Erasmus MC Holding is to create and support the set-up of Erasmus MC spin-offs. This support consists of management, financial and fiscal advice, consultancy and access to specialised facilities.

Erasmus MC Holding was founded on December 31st 2003 and ultimo 2014 holds, directly or indirectly, participations in 31 spin-offs, of which 10 have minority participation (see Table 6).

Table 6: Overview of all participations of Erasmus MC Holding BV ultimo 2014.

PARTICIPATIONS	% OWNERSHIP
2Move Implants B.V.	5
ABCDE-SIM B.V.	41,9
AgenD B.V.	100
Arcarios B.V.	1,31
BioTxs B.V.	40
Cavadis B.V.	1,52
Eurza Arbo B.V.	100
Erasmus Biomedical Fund B.V.	32,62
Erasmus Pharma B.V.	100
Erasmus MC Ameland B.V.	100
Erasmus MC Diabetesstation B.V.	78,4
Erasmus MC Schiermonnikoog B.V.	100
Erasmus MC Vlieland B.V.	100
Harbour Antibodies B.V.	41,56
Erasmus MC Rottumerplaat B.V.	100
HollandPTC B.V.	33,33
Medical Oncology Research B.V.	100
MI&EUR B.V.	100
Nano4Therapy B.V.	64

Neurasmus B.V.	100
Quantib B.V.	45
Regionale Ontwikkelingsmaatschappij InnovationQuarter B.V.	1,8
Sophia Research B.V.	100
Thoraxcentrum Research B.V.	100
ViroNovative B.V.	100
Apotheek A15 Holding BV	100
Apotheek A15 Vastgoed BV	100
Erasmus MC Texel B.V.	100
Erasmus MC Zorg Holding	100
Geboortecentrum Sophia Holding B.V.	50
Poliklinische apotheek B.V.	100

The tasks of Erasmus MC Holding BV comprise:

- Stimulating and advising (often in collaboration with TTO) on entrepreneurship within Erasmus MC including the possibilities of financial participation
- Facilitate and support of TTO on the set up of businesses
- Risk management for Erasmus MC and support for governance structures on large commercial projects and collaborations (non-spin-offs)

In 2014 Erasmus MC Holding's primary focus was on the consolidation of the administration and internal control of all spin-offs.

In May 2014, the statutory director of Erasmus MC Holding BV stepped down and her position was taken over by David W. Voetelink, CFO of the Board of Erasmus MC.

During 2014, Erasmus MC Holding BV and TTO intensified their collaboration to harmonize the support and advice for the set-up of new spin-offs.

OUTLOOK 2015

General

As 2015 will be the first full year in which the new TTO can show its impact based on the new KPI's as described in this year report, we will continue to develop our position and continue to boost the awareness in the house with respect to the key-items from our mission: 'promoting valorisation', 'secure ownership', and 'dissemination of inventions'.

Furthermore,

- We will investigate the possibility to improve our supporting role in finding grant opportunities as many of these are not directly linked to fundamental research and/or educational efforts, and are therefore easily overlooked by those departments.
- **WBSO**: the rules will change as of January 2015 and probably Erasmus MC is no longer eligible for WBSO-subsidies . We are discussing this with the Tax Office, but until now there are no guarantees.
- **EFRO**: Next to the use of an EFRO subsidy for the Incubator, TTO has evaluated whether this subsidy has more possible applications within Erasmus MC. In Q1 2015 we expect to have an overview of other possible projects that may apply and benefit from EFRO funding.
- While the economic climate improves slightly, we also see that there is more activity in the market related to the support of starting companies. New initiatives are developed, however the financial support of these initiatives remains low. Therefore, TTO will try to launch (or support the launch of) a so-called Proof-of-Concept (PoC) fund to boost initiatives that are related to Erasmus MC and Rotterdam.
- TTO will enroll as member of ASTP-Proton, a pan-European association for professionals involved in knowledge transfer between universities and industry, which will help TTO to stay informed of the latest developments, news and events in technology transfer.
- Our direct partnerships with the municipality of Rotterdam, the regional investment agency InnovationQuarter, Medical Delta and the two other TTO's within our vicinity (Luris, from LUMC/Leiden University and TUDelft) will be strengthened both by bi-lateral collaborations, as well as in consortia.
- Last but not least, TTO accepts its position as service provider for the whole Erasmus MC. Creating awareness for the work of TTO is one of the challenges that we presently face and one that we will explore further. We realize that there is a need for more in-depth educational background on valorization, not only at faculty level, but also at student level. TTO has taken the initiative to explore the possibilities to create an educational course in one of the educational programmes of Erasmus MC to educate the researcher-of-the-future on the elements of valorisation which will help him/her not only to understand what valorisation is, but also how to effectively use valorisation in his/her future position as a researcher.

Business Development

2015 will also be a year in which licensing income, as in 2014, will continue to be at a much lower level than in the years before. However, we will also show the added value of TTO in other contractual issues, when it comes to rationalising the commercial activities;

- We will support investigators to improve the business proposals/financial terms in Investigator Initiated Trials.
- We will closely follow up on the reporting of licensing deals, and –when needed– get in contact with the licensee to better understand the reporting and royalty-payments.
- We will improve our visibility by creating Non-Confidential Disclosures (NCD's) for many more inventions than those that are new and catchy; old inventions that are already published may still have value and we will also support the valorisation of those.
- We will pay attention to innovations in care and create more awareness for the need to protect these.

Legal

- The importance of grants for Erasmus MC is obvious: it is however also clear that the pressure on TTO for the support in consortia agreements will increase. The Dean has recognised that, in case researchers of Erasmus MC are coordinators of the consortium., TTO needs to have the flexibility to hire external legal counsels in order to avoid the normal service level becoming cannibalised by the time-consuming coordinator activities related to these grant agreements. Therefore, the Dean has agreed that for each coordinator agreement that is supported by TTO an extra fee is awarded to TTO.
- Legal will continue to keep a close eye on the validity and accuracy of our SOPs.
- The Legal group will be more involved in the whole valorization process by strengthening the team approach of Business Development and Legal together.

Erasmus MC Incubator

- The increasing attention to the Erasmus MC Incubator, as well as the continuous fast growth of the included companies, has caused some issues with regards to space limitations. In collaboration with the owner of the Rotterdam Science Tower, Valad, we are expecting to complete a significant increase in office-space by April 2015. In collaboration with LabHotel and Valad we expect to have filled an additional 750m² in offices and labs by the end of this year.
- Alongside the partners within the Rotterdam Science Tower, we expect to organize three new events in the “.... Meets Science” event series, the first one of which to be centered around new business venturing.
- In collaboration with the Opportunités for West programme, we will also organize the “Europa Kijkdag” as a lead event, meaning that the Rotterdam Science Tower will be the main project in the South-Holland region.

Erasmus MC Holding BV

In 2015, Erasmus MC Holding BV will focus on a number of activities:

- New developments require that the governance structure is aligned: due to the improved collaboration with TTO, the director of TTO will take over the management for those spin-offs with a close link to knowledge valorisation and care. Other projects will continue to be under the responsibility of the CFO of the Board.
- Several regulations need to be updated: Participation regulation, StAK, FCOI
- Erasmus MC Holding BV will also be involved in discussions to set up a new Proof-of-Concept Fund, which will serve to finance biotech start-ups with a link to Erasmus MC and Rotterdam.

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