Annual Report 2018

Erasmus MC TTO
Preface

Dear Reader,

As the Dean of Erasmus MC, I am pleased to write this preface to the 2018-results of TTO.

In 2018 Erasmus MC finalized its new strategy for the next 5 years: Course ’23 (Koers23). Creating impact for the individual patient, for the society, and for the scientific and clinical field remain important goals for Erasmus MC. As part hereof, valorisation of our ideas is an essential activity. Over the last years TTO has raised the awareness of valorisation and of protecting our intellectual property. Their activities have increased significantly. Currently we see that the growth of the results of TTO has stabilised at new standards. The numbers look good, but there is more than numbers alone. Now it is time to anchor TTO even stronger in our organization. This will be a new dimension to its work.

TTO faced some headwind because of some major challenges in the Business Development Team in 2017 and the Legal Team went through similar rough weather in 2018. I am convinced that new talent and new energy will come in and TTO will continue to provide the services and support that we have come to expect from them.

TTO is a vital service department that facilitates Erasmus MC employees in protecting their findings, helping to valorise these findings and to stimulate entrepreneurial thinking. Thereby TTO helps to fulfil our mission: “Erasmus MC is excellent in care, through research and education”, and impact!

Prof. dr. J.P.T.M. (Hans) van Leeuwen, Dean
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Major achievements in 2018:

- Quantib reached financial milestones and received a second tranche of investments from VC’s

- Harbour BioMed raised $85 Million in a Series B financing round, and opened an office in Rotterdam

- Erasmus MC sold its shares in ABCDESim through a Management Buy-Out

- Numeric Biotech received a loan from UNIIQ for Proof of Concept financing

- TTO developed a New Vision and Strategic Goals for the next 3 year period

- €5,45 million was awarded to Erasmus MC in the Health Holland TKI funding program for PPP-Allowance

- Over €2 million was received in royalty income, a.o. from a capped license deal from 2007

- 2 spin offs were created
1. Intro

2018 was a year of change. First of all, it was the first year since 2014 in which no significant numerical growth of the office was implemented. And 2018 was the year in which we defined our strategy for 2019 to 2022. To create more focus on improving our services and ensuring that TTO remains a focused organization, we concluded that—while stabilizing the office—we needed a new strategy.

Looking at the numbers of 2018, it is clear that we have been able to maintain the level of production that we had reached in the past few years. For Business Development, the number of new ideas lagged behind a bit, which was unexpected but can be explained, whereas Legal showed a stable performance. From a personnel perspective, within the Legal team five out of nine employees changed jobs in 2018. Although maintaining the service level is an enormous tour de force, we managed with the help of our external flexible workforce. The BD team was stable in 2018. The Support team was also partly renewed due to the departure and replacement of two people.

Erasmus MC opened the doors of its new hospital in 2018 and at the same time, the organization also worked on its new 5-year strategy called ‘Course ‘23’. Also for TTO, we needed to evaluate our work processes after three years of steep growth. We took the opportunity to collectively sit together, look back at what was good, and where improvement was needed. The implementation of the new strategy will commence from January 2019.

As we reported in our Annual Report 2017, TTO worked on a proposal, called ErasSupport, to apply for an EFRO II subsidy for the support of start-ups in the development of a viable business plan, since it is evident that there is still a significant gap between a good idea and a good pitch. Three times we presented our plan before the ‘Kansen voor West’ Committee. Unfortunately they rejected our grant application on each occasion. By the end of 2018 we decided to move on with our plan without the support of ‘Kansen voor West’. This will be followed up in 2019.

In 2018 several companies (pharmaceutical, but also technical) approached us in order to investigate the possibility to set up a Strategic Partnership at Board-level. TTO took up this challenge as these Strategic Partnerships are mainly research driven. It turns out not so easy to execute: does Erasmus MC want to have a partnership at Board-level (valid for all departments), or is a multi-departmental agreement better suited, because not all department want (and/or need) to be involved in such agreement? And if so, which departments want to be involved? And which types of collaborations (including clinical trials?) should be a part of such partnership? Not easy to answer, and certainly not easy to capture in an agreement.

After TTO joined the PROGRESS-TT programme for development and capacity-building in 2016-2017, it turned out in 2018 that other international TTOs want to learn from us. We organized and hosted two international teams (one from Poland, one from South Africa) and educated them on our approach of the technology transfer activities. We ourselves went to UCLB in the UK to exchange experiences and to learn from their approach.
In this respect it is also important to note that the collective TTOs in The Netherlands, together with the Ministry of Education, Culture and Sciences have started a series of Masterclasses to teach and increase the knowledge level of all TTO-employees in all aspects of technology transfer. The first Masterclass was given by Lita Nelsen, former Director of the Technology Licensing Office of MIT. With over 35 years of experience, her story was very helpful to create new insights for many of the Dutch TTOs. This first Masterclass was organised in our Incubator, which in itself attracts more and more attention, not only from within Erasmus MC, but also from the municipality and the region. Especially the municipality and the region use the Incubator and the Life Science & Health Hub for (inter)national meetings and presentations. Because TTO—as manager of the Incubator and Life Science & Health Hub—is hosting such events, TTO is also frequently asked to give introductory presentations on Erasmus MC and the work of TTO.

As can be seen in Table 1, we continue to pay a lot of attention to our (inter)national exposure.

Table 1: Exposure

<table>
<thead>
<tr>
<th>Type</th>
<th>2014</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
<th>2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>Internal awareness sessions</td>
<td>4</td>
<td>34</td>
<td>30</td>
<td>30</td>
<td>30</td>
</tr>
<tr>
<td>(Inter)national visits and meetings hosted</td>
<td>5</td>
<td>7</td>
<td>11</td>
<td>10</td>
<td>31</td>
</tr>
<tr>
<td>Conferences and Networking events</td>
<td>7</td>
<td>24</td>
<td>63</td>
<td>54</td>
<td>45</td>
</tr>
<tr>
<td>(Inter)national Presentations</td>
<td>0</td>
<td>4</td>
<td>9</td>
<td>21</td>
<td>15</td>
</tr>
</tbody>
</table>
2. TTO Teams

2.1 Business Development

2018 has been a fairly stable year for the BD team with a strong focus on the translation of ideas to licenses and spin offs. Compared to 2017 the number of available FTE was slightly increased from 5.8 FTE in December 2017 to an average of 6.3 FTE over 2018.

Table 2: TTO-Business Development KPIs

<table>
<thead>
<tr>
<th>Key Performance Indicator</th>
<th>2014</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
<th>2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>Invention Disclosures (IDs)</td>
<td>40</td>
<td>96</td>
<td>113</td>
<td>85</td>
<td>75</td>
</tr>
<tr>
<td>IDF Signed</td>
<td>12</td>
<td>23</td>
<td>34</td>
<td>29</td>
<td>29</td>
</tr>
<tr>
<td>Patent Applications</td>
<td>9</td>
<td>14</td>
<td>20</td>
<td>11</td>
<td>12</td>
</tr>
<tr>
<td>Patents Granted</td>
<td>4</td>
<td>6</td>
<td>5</td>
<td>4</td>
<td>7</td>
</tr>
<tr>
<td>Total Patents in Portfolio</td>
<td>113</td>
<td>61</td>
<td>80</td>
<td>82</td>
<td>74</td>
</tr>
<tr>
<td>New Licenses</td>
<td>8</td>
<td>17</td>
<td>11</td>
<td>13</td>
<td>16</td>
</tr>
<tr>
<td>Royalty Income</td>
<td>€ 440.000</td>
<td>€ 507.865</td>
<td>€ 392.624</td>
<td>€ 278.137</td>
<td>€ 781.510</td>
</tr>
<tr>
<td>Additional Added Value</td>
<td>NA</td>
<td>€ 3.135.770</td>
<td>€ 11.515.425</td>
<td>€ 1.208.866</td>
<td>€ 2.139.377</td>
</tr>
<tr>
<td>Spin-off companies</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>3</td>
<td>2</td>
</tr>
</tbody>
</table>

Looking at the numbers in table 2 it becomes apparent that the number of new invention disclosures (IDs) has dropped steadily since 2015 (with a peak in 2016). Although it is difficult to determine exactly why this number drops we see a number of factors that are likely contributors to the effect.

- Opening of the new Erasmus MC hospital required a lot of attention and time of many employees.

  With the opening of the new hospital in 2018, the time and attention of many clinicians/researchers has been directed to making the opening a success. As a result we have seen a reduction in the number of inventions from clinical departments compared to other years. We expect that this will normalize in 2019.

- Stronger BD focus on licensing which is a time consuming process.

  Scouting and screening is an important part of the BD activities to ensure the pipeline doesn’t dry up. However, we should also ensure that the IDs in the pipeline get sufficient attention to ensure they make their way to the market in the form of a license or a spin off. The licensing process typically takes many hours over several months (sometime even years) even when a potential licensee has been identified.

- Better pre-selection process resulting in less IDs being registered.

  Part of the scouting process is the initial screening of new ideas. For the KPIs we only register the IDs that require further follow-up. As the team becomes more and more experienced, it is expected that a larger number of new IDs is “killed” in an early stage.

Although we see a drop in the number of the IDs, the number of signed Invention Disclosure Forms (IDFs) has remained the same, supporting the idea that the pre-selection is more stringent. As the
number of patent applications has also remained the same (+1), this further illustrates that the outcome of the evaluation process is at the same level.

These numbers will be monitored closely in 2019 to ensure we continue to attract sufficient ideas to create impact. To this end we will also work on a new scouting process aimed at reaching a broader audience within the Erasmus MC, which also links to our new strategy.

In 2015 the BD team signed 17 license agreements. As explained at that time, this was a backlog of the previous years as shown by the reduced number in 2016. In 2017 the number started to increase based on the new IDs scouted in the previous years (2014-2016). In 2018 we managed to further increase this number to a total of 16 license agreements (technologies included e.g. antibodies, second medical use of a known drug, a lifestyle management program, mouse models, questionnaires as well as biomarkers).

Besides the signed license agreements, there is a significant number of IDs in license negotiation that will lead to new licenses in 2019. The number of spin-off companies is expected to remain at 2 to 3 per year.

As explained in the annual report 2017, it will become more and more difficult to maintain the numbers for the additional added value due to the fact that we only count these numbers if there is a baseline number on the table. If we are involved in the negotiations from the start, which is happening more frequently based on past experience, we do not count the new number as added value.

The royalty income has increased significantly in 2018. This is mostly due to income from a single license (signed in 2007) that became a commercial success in 2018. A final payment for this agreement is expected in 2019. This is a good illustration of the time lag between signing an agreement and actually seeing the revenue coming in. Nevertheless we expect the royalty income to gradually increase based on the significant amount of new licenses we have signed in the past four years.

2.1.1 Oncode Relationship Manager

The Oncode Institute is an independent institute dedicated to understanding cancer and translating research into practice more efficiently. It is built on three pillars: scientific excellence, collaboration and valorization. Erasmus MC is one of the participating institutes in Oncode. The five Principal Investigators (PIs): four senior, 1 junior. They are: Professors Kanaar and Vermeulen, and Dr. Marteijn (all 3 from Molecular Genetics, Jurgen Marteijn is junior PI), Professor Gribnau (Developmental Biology) and Professor Delwel (Hematology).

On April 9th of 2018, the official kick off meeting of Oncode with our 5 PIs and their group members took place. In total, almost 40 researchers from Erasmus MC participate in Oncode. The PIs will get 250,000 Euros each on a yearly basis (150,000 Euros for junior PIs) for a period of 5 years for their research.

Our PIs combined their efforts and applied for the Equipment and Infrastructure Programme of Oncode, a program for larger equipment projects. With this grant, it was possible to buy a confocal microscope, which is available for the larger Oncode community. The PIs are also working with clinicians in Erasmus MC to apply for new grants from the Clinical Proof of Concept Programme of Oncode. These grants can be used for validation of concepts developed through Oncode’s fundamental research and facilitate transition into the clinic.
There is a close collaboration between the Valorization team of Oncode and TTO at Erasmus MC. Dr. Debby Vissers, one of our Business Development Managers, has been appointed Relationship Manager for Oncode within Erasmus MC. She is the first point of contact for the Valorization team of Oncode and internally for the PIs and their group members. Initial meetings are taking place, and first inventions will soon be evaluated. Moreover, first new contacts with industry have been made through Oncode for the group of Professor Vermeulen. Possibilities to start a new collaboration are currently explored.

2.1.2 ZorgInnovaties010
Together with the Municipality of Rotterdam we have partnered to develop ZorgInnovaties010. The goal of this program is to disseminate knowledge of (low-tech) innovations from Erasmus MC to society. ZorgInnovaties010 activities span a wide range from scouting and screening to commercialization of innovations in care. Awareness for bringing care innovations to TTO is growing more and more every day. Apart from our awareness sessions, we also gained a lot of exposure in 2018 via Course ‘23 strategy days, intranet and LinkedIn.

Also, positive feedback from employees that TTO has helped with IP questions, contributed to the increase of new care innovations. The impact of ZorgInnovaties010 is increasingly visible as 25% of the new licenses that were signed in 2018 came from this line of Business Development. Moreover, the two spin-offs of 2018 were established based on know-how of care innovations. TTO received a lot of new care innovations in the field of low-tech tools for nursery and educational materials.

Apart from our efforts to stimulate innovation in so-called low-tech innovations, Erasmus MC has decided to establish a Designer Lab, in which employees can experiment with ideas to improve felt imperfections in their working environment. Create4Care (C4C) as it is called, is mainly aimed to support nurses to improve their work and working conditions. We work closely with the management of C4C in order to evaluate whether the solutions that are invented in C4C can also be ‘valorized’ by (patent) protection and/or commercial exploitation through third parties.

2.2 Proof-of-Concept

2.2.1 UNIIQ
UNIIQ was founded in 2016 by Erasmus MC, Leiden University, TU Delft and Innovation Quarter, and was granted European funding. UNIIQ, with a total budget of € 22 million, invests in companies in the proof-of-concept phase in order for them to overcome an important hurdle towards traditional venture capital. UNIIQ signed 11 investment deals in 2018, totalling € 3.3 million in commitment. This brings the total number of investments for UNIIQ to 28, of which 9 have secured a follow-on investment to date.

In 2018, one spin off from Erasmus MC (Numeric Biotech) was granted a UNIIQ-loan for the further development of its anti-senescence technology.

2.2.2 Swanbridge Capital
Swanbridge Capital, a very early stage Proof-of-Concept fund, and established by Erasmus MC, Van Herk Investments and the Municipality of Rotterdam, was established in 2016. Swanbridge Capital invests in early stage companies using its €6.5 million fund. Swanbridge Capital has not yet brought us, what we expected at the start of this investment fund. It turns out that the ROI-requirements of the fund and the capital requirements of the very early stage inventions that Erasmus MC proposes to
invest in, do not match. As a consequence, Swanbridge Capital looks at investment-opportunities that are a little further in their development (the so-called TRL-level), or require a much larger stake in the company to be established.

Swanbridge Capital ended 2018 with four investments in their portfolio, totalling €1.2 million in commitment. Therefore, there is still €5.4 million available for future investments.

With the Fund manager we discussed the situation and concluded that we will continue to work on creating a match between the Swanbridge Capital conditions and the Erasmus MC propositions.

2.3 Legal

2.3.1 Team and Results

2018 was a rough year for the Legal team. Five out of the nine counsels left TTO, all related to personal developmental opportunities. Two out of the three senior legal counsels left, and with that a lot of experience. Of course we worked hard on hiring new people, and we succeeded in doing so, but changing more than half a team in one year time has a tremendous effect on the culture in that team. Besides, the new people have to get acquainted with the work, the workload, the style and the position of TTO within Erasmus MC.

In the end, it is all “restructuring while the shop is open”. Year end 2018 the Legal team consisted of 7,8 FTE and one vacancy, while this was from 8,31 FTE year end 2017.

Moreover, in 2018 one legal counsel was not available for a longer period of time, due to sick leave.

<table>
<thead>
<tr>
<th>Table 3: Production of TTO Legal team</th>
</tr>
</thead>
<tbody>
<tr>
<td>2014</td>
</tr>
<tr>
<td>-------</td>
</tr>
<tr>
<td>Clinical Trial Agreements</td>
</tr>
<tr>
<td>Material Transfer Agreements</td>
</tr>
<tr>
<td>Confidentiality Agreements</td>
</tr>
<tr>
<td>Grant/Consortium Agreements</td>
</tr>
<tr>
<td>Research Agreements</td>
</tr>
<tr>
<td>Inter-institutional</td>
</tr>
<tr>
<td>Commercial</td>
</tr>
<tr>
<td>Consultancy Agreements</td>
</tr>
<tr>
<td>Data transfer/database/processor’s agreements</td>
</tr>
<tr>
<td>Other agreements*</td>
</tr>
<tr>
<td>Total</td>
</tr>
</tbody>
</table>

* “Other agreements” are for example letters of intent/commitment, service agreements, speaker agreements and amendments to existing contracts.

The hiring, training, and settling of the new people within the team takes time, and during the year we have seen ups and downs in addressing requests for advice properly. Despite the issues, the number of requests was similar to the number in 2017, and despite of the need to also embrace pending cases left open by those advisors having left TTO, we continued to provide feedback in a reasonable timeframe. However, some cases suffered the consequences of a high workload and pressure on the Legal team. All in all, the team managed to evaluate almost the same number of contracts as in 2017.
We used our flexible workforce extensively to achieve this. Table 3 shows the results, subdivided in several subtypes of contracts.

Also this year we tried to look into the possibilities to better visualise which, and how many requests for legal support came from which department in the House, using the possibilities of our new software tool for distributing the legal requests over the legal counsels. However, due to all the internal challenges and events, there was little time to explore this in detail. Therefore we decided not to make any further analyses this year.

The last few years the Legal team organised specialised training sessions for all Legal counsels of Erasmus University (our so called In-House Academy), but again, due to all the changes in the team, our activities in this respect were low.

2.3.2 Collaborations
During 2018, the Research Development Office (RDO) has been growing and the communication with TTO has increased to facilitate a better approach to issues that involve both offices. The strong collaboration has resulted, among others, in the achievement of a significant reserve to Erasmus MC from the Dutch Top Sector grant programs, and the confidence of Health Holland to allow the direct administration of the 2018-grondslag to Erasmus MC to execute on a first delegated call in Q1 2019. This represents an example of joint achievement and shows that cooperation between RDO and TTO can increase the chances of success in grant applications and agreements that need to be completed in connection with those opportunities.

The Legal team supported the work of the TKI-manager in serving the audit and review of requirements to comply and facilitate the grondslag application to Health Holland to generate the reserve (see Chapter 4.2 for detailed TKI-results).

The collaboration between RDO and TTO shall continue to be further elaborated, in order to facilitate each other’s work with clear scope, and also to avoid confusion in the research community. One issue that needs further clarification is the role of TTO for obligations, which are not legal documents per se, but need to be supported with a signature-form before the Dean can sign off.

The teams of TTO and Legal Services (JZ) had met to find out how they could cooperate more closely and complement each other’s expertise. Both offices seem to be open to continue efforts to facilitate access to a combined expertise when required, in light of the cases that may be submitted to each office. This is a positive step to facilitate access to complementary expertise.

A good example that this is still work in progress is the recent set up of the sub-department of PKO (Privacy Knowledge Office) to JZ: since the ratification of the GDPR, Erasmus MC needs to have such an office to show how and how diligent it is handling personal data and material.

While a representative of TTO participated in the working group that had the task to define and decide on the creation of PKO, it is now the role of both offices to cooperate in clarifying where each other’s task and involvement starts and ends, and how best to communicate their role to the research community to avoid confusion that result in undesired delays. In many of the IP-related contracts TTO is evaluating, issues arise concerning privacy. PKO needs to answer these questions, as the mandate to the privacy-policy of Erasmus MC is with them. Unclear communication between PKO/JZ and TTO need to be solved to avoid frustration at the side of the scientists.
2.4 Erasmus MC Holding

Erasmus MC Holding B.V. offers a transparent, organizational framework for healthcare-related legal entities with a link to Erasmus MC. We supervise approximately 30 subsidiaries (see Table 4), offer insight into their performance, and we provide management support. All of this in close collaboration with TTO.

Erasmus MC Holding BV is a 100% subsidiary of Erasmus MC and is therefore guided by the interests of the Erasmus MC group. We hold the shares or memberships of affiliated legal entities. By definition these legal entities are related to the core tasks of Erasmus MC: patient care, education, research or valorisation.

Table 4: Overview of all participations of Erasmus MC Holding B.V. ultimo 2018.
Core activities
We define the objectives of each company within the Holding, monitor the results and -if necessary- adapt and change the plans and processes. In addition, we conduct active risk management aimed to control risks in the areas of continuity, finance and reputation.
We manage and supervise our subsidiaries, but we also provide management support to both the Erasmus MC Board of Directors and the management of the participations. Support consists of management, financial and tax advice. We also assist the companies in hiring consultancy such as valuation specialists, legal advice and notary services.

Staff
The Holding consists of a small staff of 4 employees. Major changes in this team during 2018: Beatrijs Bootsman was promoted and now holds the position of controller, Roshni Bissesser was hired as a junior controller and Rob Overdijk was appointed as Director of Holding. Thijs Spigt continues to hold the position of deputy Director of the R&D holding company, next to his position as Director of TTO.

Results
2018 was a good year for the Erasmus MC Holding. Turnover increased to € 73.8 million and a profit of € 7.9 million was realized. This profit was mainly realized by the A15 pharmacy, a producer of pharmaceuticals and pharmaceutical ingredients. New entities added to the Holding in 2018 are: the Erasmus MC Corporate Travel Clinic, the Cooperatie Ambulancedienst ZHZ and Erasmus MC licensee and spin-off Cergentis.

2.5 Incubator & Life Science and Health Hub

The majority of the Erasmus MC Incubator’s activities are related to supporting Erasmus MC’s start-up companies by offering affordable laboratory- and office space in our Incubator in the Rotterdam Science Tower (RST), a small subsidy for advice, as well as access to the knowledge, network and expertise of TTO and Erasmus MC.

Two companies (Skyline DX BV (www.skylinedx.com) and Quorics BV (www.quorics.nl)) have grown out of our Incubator in 2018. The success of these companies has resulted in employment of more than 35 people. In September 2018 they moved out of the incubator and into their new offices.

Erasmus MC Incubator currently houses four companies:

- RiverD International BV (www.riverd.com)
- Surguide BV (in formation) (www.surguide.nl)
  Surguide is a spinoff from RiverD International and Erasmus MC. Surguide is working on a medical device to improve cancer care by supporting surgeons in their strife for complete tumour removal.
- Sensius BV (www.sensius.biz)
- Delta Diagnostics (website under construction)
Delta Diagnostics (a spin off company from TNO) is working on care diagnostics. They are developing a biosensor to predict a heart attack or an infectious disease. They collaborate with several departments within Erasmus MC.

Next to the Incubator, and together with the Municipality of Rotterdam, Erasmus Centre for Entrepreneurship and LIFE010 consortium, we developed the initiative to create the Life Sciences & Health Hub (LS&H Hub) in 2016. The LS&H Hub is on the 9th floor of the RST and is a welcome addition to our Incubator. It houses start-up companies in the healthcare sector that only need office space. The LS&H Hub is increasingly creating a community where parties working in the LS&H field can network with each other. The Municipality of Rotterdam supported this initiative by subsidizing the setup of the LS&H Hub.

In 2018, we decided (together with the new owner of RST, Egeria) to further develop the ground floor (with financial support of the Municipality) and to expand the LS&H hub with a second floor. All building activities are scheduled for 2019.

Impact of LS&H Hub in 2018
- 150+ events/ delegations/ meetings
- Housing of 12 LS&H companies
- Creating 40 new jobs
- 500+ students involved
- 200+ matches care companies & start-ups
- 26 connected Hub-partners
- 150+ Erasmus MC scientists involved

Highlights 2018
- Entrepreneur breakfast Rotterdam, hosted by the Major of Rotterdam, mr. Ahmed Abutaleb with 350+ entrepreneurs attending
- Launch of the Rotterdam eHealth agenda (REHA)
- Erasmus MC Postdoc CHAMELEON network event (100+)
- ‘Course ‘23’ events with the Board of Directors and Department Heads of Erasmus MC
- Successful yearly ‘Healthy Funding’ event
- Attendance of all TTO’s in the Netherlands for a Master Class by Lita Nelson (former director of the Technology Licensing Office of MIT)
- Site visits and Erasmus MC presentations for delegations from Poland, South Africa, Denmark, Shanghai, and Singapore
- Attendance workshop region proposition: https://www.lifesciencesinwestholland.nl/rotterdam/
- Erasmus MC TTO and Leiden UMC TTO (LURIS) meetup
- Acquaintance (new) alderwoman of Rotterdam: Barbara Kathmann
- Hosted a tour of the department of Urban Development, Rotterdam
- Hosted a tour of journalists from US and UK (organised by NFIA)
- Four increasingly successful breakfast meetings, a.o. with alderman Sven de Lange
3. Financials

Table 5: Overview of Financials

<table>
<thead>
<tr>
<th></th>
<th></th>
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<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Erasmus MC Contribution to TTO</td>
<td>€ 756.132-</td>
<td>€ 876.600-</td>
<td>€ 1.176.887-</td>
<td>€ 1.397.416-</td>
</tr>
<tr>
<td>Licensing Income</td>
<td>€ 507.865</td>
<td>€ 392.624</td>
<td>€ 278.137</td>
<td>€ 2139.377</td>
</tr>
<tr>
<td>Other Realised Value</td>
<td>€ 3.135.770</td>
<td>€ 11.515.425</td>
<td>€ 2.530.304</td>
<td>€ 3.528.578</td>
</tr>
<tr>
<td>AAV (CTAs, MTAs, other)</td>
<td>€ 3.135.770</td>
<td>€ 11.515.425</td>
<td>€ 1.208.866</td>
<td>€ 781.510</td>
</tr>
<tr>
<td>TKI</td>
<td>€ -</td>
<td>€ -</td>
<td>€ 1.321.438</td>
<td>€ 2.747.068</td>
</tr>
<tr>
<td>WBSO</td>
<td>€ -</td>
<td>€ -</td>
<td>€ 476.373</td>
<td>€ -</td>
</tr>
<tr>
<td>Total added value for Erasmus MC</td>
<td>€ 2.887.503</td>
<td>€ 11.031.449</td>
<td>€ 1.631.554</td>
<td>€ 4.270.539</td>
</tr>
</tbody>
</table>

Table 5 shows the total overview of TTO’s financials in 2018. “Total added value for Erasmus MC” is calculated as “Licensing Income” + “Other Realised Value” - “Erasmus MC Contribution”.

AAV, or “Additional Added Value”, is the added value due to (re)negotiating of contracts or to better budgeting. By offering our economic and business advice, TTO Business Development Managers are able to add value to previous versions of budgets. The difference between the original budget and the new budget is calculated as AAV. The additional cash revenue to Erasmus MC research derived from TKI (see Chapter 4.2), is also labelled under “Other Realised Value”.

In multiple ways, TTO has assisted in the achievement of financial returns in innovation and collaboration for Erasmus MC. Traditionally, and because this is the core of the existence of TTO, TTO’s main source of financial return came from licensing income. While this income is highly volatile and it often takes many years to develop any income after out-licensing, the impact of this activity for Erasmus MC is huge. Over the past few years, TTO has been actively involved in other activities that support financial return. These sources of income, mainly AAV, are well-appreciated, but will dry up as departments get educated.

TTO assists many departments (both research and clinically oriented) with optimization of their returns in industrial collaboration. By offering support in ongoing negotiations into MTA’s, CTA’s and other collaborations, in 2018 TTO managed to obtain an increase in total funding for Erasmus MC of € 781.510.-. In 2018 we further structured our services in this area, causing a number of departments to pro-actively request our assistance. Although this is very much welcomed to ensure the process will go as efficient as possible, this has created a situation in which TTO no longer has a ‘starting point’ to calculate the Additional Added Value. We therefore believe that the KPI of AAV should be re-evaluated. This will be worked out in 2019.

TKI was managed by TTO since 2016 and yielded a significant financial cash return to Erasmus MC Research groups, totaling € 2,74 million in 2018, up from € 1,31 million in 2017: an increase of 108% (see Chapter 4.2). This cash return could even become higher, as part of the evaluation of our TKI-application is still pending. Due to the operational process of TKI, final results of this evaluation will be available by the end of June 2019. As this income is not guaranteed, we have not included it in our results.
In total, TTO was responsible for € 3,53 million in Other Realised Value for Erasmus MC. When we add this number to the results from licensing and IP transfer (Licensing Income), we see an added value for Erasmus MC of € 5,76 million, up from € 2,81 million in 2017. When we compare this to the financial contributions required to operate TTO, we see a positive Total added value for Erasmus MC from our activities of € 4,27 million, up from € 1,63 million in 2017. Although the monetary returns are not the main goal of TTO, the Total added value of TTO for Erasmus MC in 2018 is increased.
4. Synergies within TTO

4.1 Spin-offs

Phileas

More than half of the Dutch population is overweight with major consequences for both the individual and society. For the individual, the consequences are in terms of health, overall well-being, employability in work, with great risks in the long term. Our Human Resources department has developed the: “Beweegspel” . This is an evidence-based game to promote health and vitality by teams at the workplace by combining eHealth with a face-to-face approach (blended care). TTO provided start-up Phileas with an exclusive know-how and copyright license to commercialize the “Beweegspel”.

Now BV

The Clear-Site Clip is developed by Now BV and is a tool to re-use liquor drains instead of throwing them away. This results in efficiency and cost savings. TTO provided start-up Now BV an exclusive know-how license to commercialize the Clear-Site Clip.

4.2 TKI Program and PPP Allowance

The TKI Program is a funding program initiated by the Netherlands Enterprise Agency (RVO) and the Topsector Life Sciences and Health (TKI-LSH), also commonly known as Health-Holland, to stimulate collaborations between private and public partners. This program establishes a reserve for each research organization by matching the collective income from all private parties of the preceding year by 25%. Although this is a predicative match for the collective private income; this percentage varies annually, is solely determined by RVO, and is only known to the research organization once the application is approved. This reserve in turn stimulates new research by allowing scientists to acquire additional funding, called the PPP Allowance, for new R&D projects with industrial partners.

In 2018, Erasmus MC screened 2,030 project and reviewed 988 (see Table 6). A Total of 401 projects were submitted for the program, which is a 3-fold increase to 2017 (see Table 7), and of which 42% were from industrial partners, 31% from foundations with ANBI status and 27% from other private entities, such as international foundations. This concluded to a very successful application for the TKI reserve that resulted in a total amount of € 5,45 million that was awarded and would be available for funding of new projects through the PPP Allowance (Table 7).
Table 6: Results of Erasmus MC’s application to the TKI program for the TKI reserve

<table>
<thead>
<tr>
<th>Type</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total number of projects received for 2018</td>
<td>2030</td>
</tr>
<tr>
<td>Number of projects not eligible for funding from TKI-LSH (after initial screening)</td>
<td>1042</td>
</tr>
<tr>
<td>Total number of projects evaluated</td>
<td>988</td>
</tr>
<tr>
<td>Percentage of projects eligible</td>
<td>41%</td>
</tr>
</tbody>
</table>

Table 7: TKI Program statistics across the 3 year period of TTO’s involvement in the program

<table>
<thead>
<tr>
<th>Year</th>
<th>No of applied projects</th>
<th>Applied TKI Program</th>
<th>Awarded reserve</th>
</tr>
</thead>
<tbody>
<tr>
<td>2016</td>
<td>32</td>
<td>€ 3.996.808</td>
<td>€ 760.620</td>
</tr>
<tr>
<td>2017</td>
<td>127</td>
<td>€ 12.705.062</td>
<td>€ 2.180.000</td>
</tr>
<tr>
<td>2018</td>
<td>401</td>
<td>€ 24.632.267</td>
<td>€ 5.451.600</td>
</tr>
</tbody>
</table>

The management of the PPP Allowance is a joined effort between TTO and RDO of Erasmus MC (see also Chapter 2.3.2), where the advisors are experienced in the program’s rules and regulations. This partnership between the two departments provides the researchers with a central point of contact where they are assisted with their entire application. TTO’s role in this collaboration is to assist RDO in reviewing the content of each project, to ensure that the projects adhere to the IP regulations of the program and to assist with negotiations between the industrial and academic partners. In 2018, Erasmus MC submitted eight projects for the PPP Allowance with a total value of € 2.747.068, all of which were granted (see Table 8).

Table 8: Statistics on the PPP Allowance for 2018

<table>
<thead>
<tr>
<th>Year</th>
<th>No of applied projects</th>
<th>Awarded projects</th>
<th>Awarded PPP Allowance</th>
</tr>
</thead>
<tbody>
<tr>
<td>2018</td>
<td>8</td>
<td>8</td>
<td>€ 2.747.068</td>
</tr>
</tbody>
</table>

In 2018 the diligence and quality of Erasmus MC’s efforts with the TKI Program and the PPP Allowance was noticed by the funding authorities, and Erasmus MC was granted the privilege of managing their own reserve and subsequent PPP Allowance. This marked a new chapter for the institute as a key academic partner to external parties, but also stimulated further interdepartmental collaborations and focus towards a common goal, namely stimulating innovation through life sciences and health.
5. Outlook 2019

From 2019 TTO will start to execute the services based on its new Vision and Strategic Goals. From the collective efforts of the whole team to sharpen the Vision and the Strategic Goals we are convinced that collectively we will be able to continue to achieve strong results for Erasmus MC.

The Vision

The VISION of Erasmus MC TTO is:

**IMPACT ON SOCIETY, THROUGH KNOWLEDGE TRANSFER**

Erasmus MC TTO plays a pivotal role in creating IMPACT ON SOCIETY and it will achieve that THROUGH KNOWLEDGE TRANSFER.

While Erasmus MC’s Mission is solid, clear and represents fully TTO’s Mission, we follow this:

| “Erasmus MC is excellent in care, through research and education” |

Strategic Goals

The Strategic Goals of TTO for the next 3 years period (2019 until 2022) are:

- TTO is the partner within the Erasmus MC community for managing valorization
- TTO is an aligned professional team, bringing Erasmus MC derived IP to society
- TTO demonstrates its contribution to socio-economic impact
- TTO shall operate within clear boundaries

‘The dot on the Horizon’

The growth of TTO in the period 2019 until 2022 shall not be counted at the level of increasing the numbers, but in improving our services.

One of the services that we will develop and implement from 2019 onwards is aimed at educating scientists and clinicians with an interest in entrepreneurship. The goal is to support them in such a way that they have better insights in the role and responsibility of an entrepreneur, and that they will understand what it means to work in an entrepreneurial environment, instead of an academic environment. This should enable them to make a well-funded decision about their future role in the commercialization of their ideas.

In 2019 we will also improve our scouting services for new ideas from the Erasmus MC community, not to increase the numbers, but to improve the impact that the scouted and screened ideas can create to the care.
The Legal team, with quite some new and unexperienced members, will have to embrace a new challenge in 2019: the professional growth of TTO shall be focused on the specific needs of the research community. Moreover, the work processes shall be streamlined.

The communication with the research community needs to be improved to address all requests in a timely manner and secure the momentum in the valorisation opportunities.

Furthermore, we see that within Erasmus MC the request for some of the services that TTO is offering, changes: with the implementation of GDPR (Privacy Regulation, and fully in force from 2018) and MDR (Medical Device Regulation, and fully in force from 2020) we have to improve our support for CTAs, as CTA’s almost always deal with privacy-sensitive material and/or data. We need to streamline this with the Privacy Office (PKO). Also the number of CTAs tend to increase in the near future. TTO aims to stay ahead of those changes and will adapt so that we continue to offer the best services we can offer. One action of the Legal team will be to create up to date model agreements that should speed up the evaluation process.

In 2019 we expect an increase in the number of new care innovations with the establishment of Create4Care. This is a physical lab space for all employees (but mainly concentrated on nurses) that would like to work on their care innovations (e.g. low-tech tools, medical devices etc.)

The number of licenses will probably remain the same. We also envision the same number of new spin-offs (max.2) in 2019. Also the total number of contracts to be evaluated will stay in the same range.

For Oncode, there is a nice and positive outlook for 2019: two new junior PIs from Erasmus MC were appointed to the Oncode team and will join the team as from January 1st, 2019. These new PIs are Dr. Miao Chien (Molecular Genetics) and Dr. Rebekka Schneider (Hematology). Therefore, from 2019, we will have in total 7 PIs from Erasmus MC participating in Oncode.

For the Incubator a couple of activities are expected for 2019: Imcomet, a spin-off from Unilever will rent 1 laboratory and we expect to rent out two flex-offices to two new spin offs from Erasmus MC: Kaminari Medical and ExoVectory.

Our close collaboration with Holding will become more intense, as the number of participations slowly increases, but also because we try to professionalize our services, also from Holding perspective. As an example, this means that we will develop and implement a new Regulation for Income Tax-advice for those employees that receive a share in a spin off as part of the Fair Compensation Regulation. This will also closely be aligned with the activities of the StAK.
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