Technology Licensing Office

During fiscal year 2018, the Technology Licensing Office (TLO) achieved much success in its endeavors. The office updated its mission statement as part of a comprehensive effort to ensure that TLO staff, the MIT community, and external stakeholders understand TLO's goals and to demonstrate the office's connection to the overall MIT mission. The mission statement now reads as follows:

> In the spirit of MIT's mission to advance knowledge, the TLO moves innovations and discoveries from the laboratory to the marketplace for the benefit of the public and to amplify MIT's global impact. The office cultivates an inclusive environment of scientific and entrepreneurial excellence and bridge connections from MIT's research community to industry and start-ups by strategically evaluating, protecting, and licensing technology.

The 48 members of the TLO staff (24 licensing professionals and 24 administrative and support personnel) work closely with faculty and researchers to identify technologies that may have a significant effect on the world if further developed and commercialized. TLO manages the process of protecting these technologies, identifying licensees, and negotiating licenses, including licenses to start-up companies founded by MIT faculty, postdoctoral associates, graduate students, and staff. In addition, TLO staff manage the protection and licensing of MIT's valuable trademarks and the use of the MIT name. TLO also works very closely with the Office of Sponsored Programs to negotiate intellectual property (IP) terms of use and subsequent management of IP outcomes in nonfederal research sponsorship agreements, collaboration agreements, and large-scale alliances with industry, foreign governments, and philanthropic foundations.

Licensing and Patenting Activity

The number of total technology disclosures submitted to the TLO reached an all-time high in FY2018 (822, contrasted with 794 in FY2017) and remained steady for Lincoln Laboratory (83 in FY2018 and 84 in FY2017). The TLO has 4,465 issued and pending US patents and 2,091 issued and pending foreign patents. These cost MIT nearly $22 million in FY2018.

The TLO's net patent cost expenditure (patent costs less reimbursements) was $10 million. This was a savings of $900,000 over FY2017 because of the work of the licensing, IP, and finance teams; they were more judicious in patent management and more diligent in recovery of patent costs from licensees and joint owners. Approximately 47% of MIT's issued US patents and 25% of MIT's pending US patents are currently licensed or optioned to third parties, and 89% of foreign-issued patents are licensed or optioned to third parties. The total research expenditure for MIT and Lincoln Laboratory in FY2018, from which new IP arises, was $1.7 billion.

The TLO's licensing and patenting activity in FY2018 included the following:

- 123 licenses and 30 options were executed.
- More than 154 trademark licenses are active, yielding $254,000.
- 33 start-up companies based on MIT IP were launched.

- Eight licenses and four option agreements were completed for Lincoln Laboratory technologies.
- Receipt of equity was part of license consideration in 13 of the 28 start-up licenses.
- Three start-up companies from previous years licensed new technology in FY2018.
- More than 84% of the FY2018 licensed start-up companies were based in Massachusetts, 6% were US-based but outside Massachusetts, and 10% were international.
- The office continued to use the ready-to-sign initiative for end-use software licenses, resulting in 89% of such licenses (approximately 42) submitted online via the TLO website.
- An established pipeline of more than 151 license negotiations were n process at the end of FY2018; 48% of those negotiations were with start-up companies.

Revenue Generated

Gross cash income for TLO in FY2018 was $58 million, an increase from $53 million in FY2017. Of 491 active, revenue-generating licenses, just eight generated more than $1 million in FY2018 and another five licenses generated more than $500,000. Revenue from liquidated equity received in consideration for licenses was $576,000.

In FY2018, more than $17 million from royalties earned in FY2017 was distributed to more than 1,000 inventors; 84 departments, laboratories, and centers; and 64 other entities. The MIT general fund received $16 million. Most of the TLO income is generated by licenses executed and patents filed over the past five to 10 years.

Startup Company Activity

Of the total start-up companies licensing MIT IP, there are:

- 280 active MIT start-ups, of which approximately 38% are active venture-backed start-ups.
- About 65% of active start-ups involve the physical sciences or software rather than the life sciences.
- Just over 10% of start-ups are located near MIT (Figure 1).

Strategic and Policy Contributions

TLO staff members contributed their policy and strategy expertise in other ways to the MIT community, including working with these collaborators:

- The MIT-IBM Watson Artificial Intelligence Laboratory
- Commonwealth Fusion Systems (a license and sponsored research engagement)
- Osage University Partners
- MIT's Washington Office on a response to the National Institute of Standards and Technology on the detrimental impact of changes to the Bayh-Dole Act (Patent and Trademark Law Amendments Act)

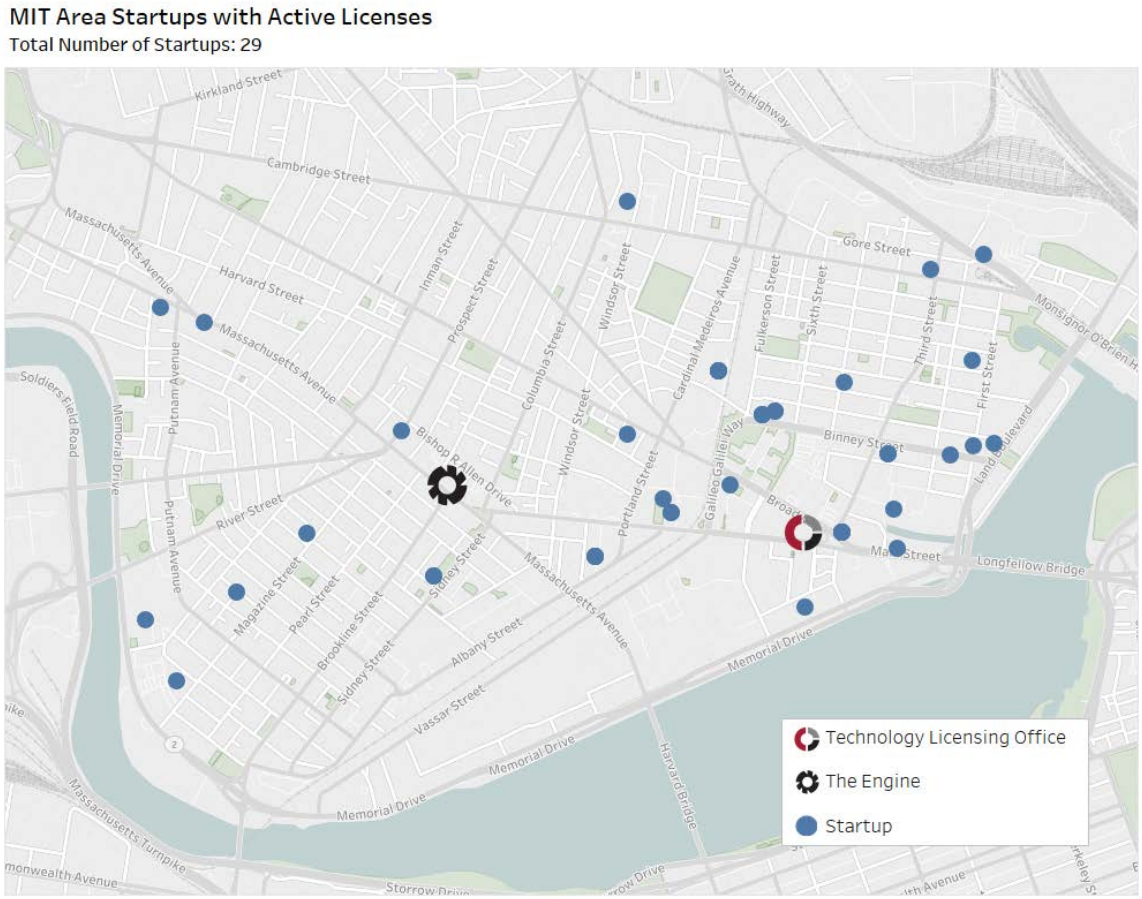
The office also worked to modify the MIT policy on revenue sharing from equity.

Engagement in the Entrepreneurial Ecosystem

TLO staff are active contributors, presenters, and participants in an increasing number of student activities and entrepreneurial programs at MIT. They also engage with visitors and partners interested in learning how MIT successfully manages its commercialization activities. Table 1 lists selected activities that the TLO participated in during FY2018.

Members of the TLO are also actively involved in disseminating MIT technology transfer and entrepreneurship policies and practices to other universities, research institutes, and governments throughout the world. TLO senior staff have served, usually pro bono, as advisors for university or governmental technology transfer offices in a number of countries, as well as on boards and committees for national, state, and local entrepreneurial technology transfer organizations.

TLO also hosts visits and meetings from and with government agencies, other universities, and corporations. In FY2018 these included the White House, the Office of Budget and Management, the Scottish Universities Delegation, the Federal Bureau of Investigation, the World Intellectual Property Organization, the European Patent Office, the US Patent Office, and many others.



MIT area startups with active licenses

Selected Outreach Activities

Ad Hoc Task Force on Open Access

Administrative Advisory Council II on Inventions and Proprietary Information Agreements (IPIAs)

Various department administrative officers on IPIA management

Communications Information Group

Media Lab communications

Computer Science and Artificial Intelligence Laboratory (CSAIL) graduate students

CSAIL Cybersecurity

Delta v

Deshpande Center for Technological Innovation Abdul Latif Jameel Water and Food Systems Lab presentation

Deshpande Center kickoff meeting

Deshpande Center Open House and Innovation Showcase

Deshpande Center Idea Stream

DesignX Pitch and Demo Night

15.366 Energy Ventures

Extended Engineering Council

Independent Activities Period sessions sponsored by TLO

IBM proposal kickoff meeting

School of Science directors and department heads

Idea2 Global Practice Pitch Event

Industrial Liaison Program presentations to members and prospects

Industrial Liaison Program staff presentation

Lincoln Laboratory presentations

Martin Trust Center: IdeaWeek and StartMIT

Mechanical Engineering Department faculty

MIT-BU Law School Legal Clinic Boot Camp

MIT Energy Initiative sponsorship meetings (Shell, ExxonMobil, IHI Corporation, ENN Energy)

MIT-Empowering the Teachers Fellows

Harvard-MIT Program in Health Sciences and Technology Medical Engineering and Medical Physics

MIT Industrial Performance Center

Office of Philanthropic Partnerships

Office of the Treasury

Postdoctoral Association on conflicts of interest

Research Administrators Group

Regional Entrepreneurship Acceleration Program Policy Practice Workshop

Sponsored Research Visiting Committee

School of Engineering development officers

School of Science directors and department heads

Singapore-MIT Alliance for Research and Technology faculty presentation

MIT Venture Mentoring Service (VMS) visitors and mentors presentations

VMS Workshop: Building an IP Portfolio

Vice President for Finance, Office of Treasury staff

15.359J/6.901J Innovation Engineering: Moving Ideas to Impact

6.903J15.628J/6.903J Patents, Copyrights, and the Law of Intellectual Property

2.96/2.961 Management in Engineering

20.380J/5.22J Biological Engineering Design

2.75 Medical Device Design (basics of patents)

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