The Technology Transfer Activities in Japan

“University-industry collaborations in Japan”

TODAI TLO, Ltd.
Takafumi (TAKA) Yamamoto, RTTP
https://todaitlo.com/
Our goal is to provide a better society to the next generation through industry-academia collaboration.
23 Years ago
Niels Reimers: Father of Technology Licensing

In 1968 he established a research management office at Stanford University. In 1969 he also established Office of Technology Licensing (OTL) at Stanford Univ.

The successful launching of these two offices led to his hiring by universities such as the Massachusetts Institute of Technology (MIT), the University of California at Berkeley, and the University of California at San Francisco, all of which were seeking to establish their own offices for technology transfers.

A cofounder of the Association of University Technology Managers (AUTM), Mr. Reimers has served as chairman of the Licensing Executive Society (U.S. and Canada).
• Peptidream was founded in 2006, based on the inventions of Prof. Hiroaki Suga.

• The company retains a library of over 1 trillion peptides, along with search technology for finding the right peptides to target diseases with. They began their business by approaching multiple Japanese pharmaceutical companies, but found it rough going until they started forming alliances with big-pharma firms overseas, ultimately leading to their IPO in 2013.
popIn was successfully bought out by Baidu

Mr. Tou Tei, an exchange student from China, established popIn in 2008, using an invention he created in his student days. The popIn service, which increases user retention time on the Web, is used by many mass-media companies and other firms. Envisioning a buyout from the beginning, Mr. Tei successfully engineered one with Baidu in June of 2015.
Vedanta Biosciences signs $241 million licensing deal with Janssen and J&J Innovations

Vedanta, founded in Boston, was based on intestinal flora technology that failed to attract the interest of Japanese firms.

It is a unique case of technology developed at a Japanese university being used to establish a spin-off company overseas. Some may think it best to commercialize Japanese inventions within Japan, but considering the needs of patients, this can still be considered a successful case.
Changes in the number of notifications received by the Todai Technology Licensing Organization for inventions /Copyright / know-how
Change in the number of patent applications
Number of contracts associated with achievements of the Todai TLO

(Number of cases)

**“Others” include consultations and Material Transfer Agreements (MTA), etc.**
Change in revenue from technology transfers at the Todai TLO

(Unit: millions of yen)

* Total amount of revenue from technology transfers at the University of Tokyo and the Todai Technology Licensing Organization, which is different from sales at the Todai Technology Licensing Organization.

* "Others" include consultations and Material Transfer Agreements (MTA), etc.

The University's sole inventions
The University's joint inventions
Individual cases
Others

2014 2015 2016 2017 2018

TLO for the University of Tokyo
Japanese Government encourages universities to do a University-Industry collaborations.

<table>
<thead>
<tr>
<th>Year</th>
<th>Event</th>
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<tbody>
<tr>
<td>1999</td>
<td>Law for Promoting Technology Transfer from Universities (TLO Law)</td>
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<td></td>
<td>Law for Special Measures for Industrial Revitalization</td>
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<td></td>
<td>• Japanese Bayh-Dole Act</td>
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<td></td>
<td>• Reduction of patent fees for approved TLOs</td>
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<td>2000</td>
<td>Law to Strengthen Industrial Technology</td>
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<td></td>
<td>• Allowing TLOs to use national university facilities free of charge</td>
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<td>2001</td>
<td>1,000 University-start-ups in three years (Hiranuma Plan)</td>
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<td>2004</td>
<td>Enforcement of National University Reformation Law</td>
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IPR Ownership

Incorporated as an Independent Agency

2004/April

National Universities had no legal status. Universities could not be a patent owner.

National Universities get legal status. Universities can be a patent owner.

IPR belonged to inventors

TLOs contracted with inventors

IPR belongs to Univ.

TLOs contract with Universities
Industry-University collaboration in Japan

UNITT Survey 2016

Number of invention disclosures 8,361 (3.2% UP)

Number of Japanese patent applications 6,661 (3.4% UP)

Number of all patent applications 9,388 (6.4% UP)

Number of new licenses 2,980 (4.7% UP)

Total amount of license revenue 22M€ (17.7% UP)
Total amount of license revenue

- Running royalty income
- Upfront royalty and other
- Stock related income

UNITT Survey
The line graph shows the number of new licenses at US universities, and the bar graph shows the number of new licenses at Japanese universities.
Relationship between the amount of revenue derived from patent rights and the number of patent applications.

Amount of revenue per patent application. Except university A, B, and C most universities produce less value than average universities.
Two thirds of technologies in US universities are licensed to small- and medium-sized companies and startups, on the other hand, few of those are licensed to startups companies in Japan.
Innovation through Industry-Academia Collaboration

1. Technology transfer professionals

ATTP (Alliance of Technology Transfer Professionals), which was established mainly by Western universities, conducts a certification called RTTP (Registered Technology Transfer Professional).

Global standards for technology transfer professionals
Strong demand for world-class RTTP professionals
The University of Tokyo advocates simultaneous industry-academia-government reform for the promotion of SDGs.

We bring together the University of Tokyo’s research and educational capabilities to make efforts to achieve SDGs.

The University of Tokyo established UTokyo FSI in July 2017, under the direct leadership of the university president.

The aim of the initiative is to promote collaborations that are effective in contributing to the future of humanity and the planet, based on the university’s mission of serving the global public as outlined in the University of Tokyo Charter.
Todai ventures have already played active roles in Tanzania.

• Until now, some people have traveled 2.5 hours one way in order to charge their mobile phones.

• Currently, many people in the country do not have a bank account.

• WASSHA, in cooperation with Kiosk, covers end users’ mobile phone charges by leasing a device intended to sell power generated by solar panels free of charge.
* UNITT = University Network for Innovation & Technology Transfer (AUTM Japan)

We held 16th UNITT Annual Conference at Tokyo Denki University on last September. There were about 550 participants.

We held a 3rd “AUTM-ASIA conference in Kyoto in 2013”.

Technology Transfer educational courses (Basic and Applied Courses) are provided by UNITT.

UNITT join the ATTP in 2013.
Toshihiko YAMASAKI （山崎俊彦）

Career:
2004-2009, Assistant Professor, The Univ. of Tokyo, Japan
2009-present, Associate Professor, The Univ. of Tokyo, Japan
2011-2013, Visiting Researcher, Cornell Univ., US
Main Field: MM, CV, PR, ML, CG

Education:
2004, Ph.D. at The Univ. of Tokyo, Japan
Analog VLSI design, CMOS imaging circuits

Attractiveness Computing (魅力工学)
-ビッグマルチメディアデータを用いた魅力の定量化、予測、解析、強化-
Thank you!