

Tech Notes

Technology Transfer: A vital part of the Laboratory's mission

Lincoln Laboratory's technology transfer activities contribute significantly to the expansion of scientific knowledge and the promotion of industry solutions to defense and civil sector problems.

MIT Lincoln Laboratory has a long history of promoting technology transfer for application in the defense and the civil sectors. Many technologies initially developed to meet defense requirements have been re-adapted for commercial use. For example, under the U.S. Air Force's Semiautomatic Ground Environment air defense program of the 1950s, Lincoln Laboratory's expansion of the capabilities of MIT's Whirlwind computer, the first to operate in real time and to use video displays for output, led to the development of business computers and minicomputers in the 1960s.

The Laboratory's contributions to air traffic control and air safety have resulted in the adoption of Laboratory-developed technology into the national air traffic industry. The Traffic Alert and Collision Avoidance System, now man-

dated for all large aircraft operating in the U.S., was developed and tested at the Laboratory. The Runway Status Lights system developed in collaboration with the Federal Aviation Administration to warn pilots and air traffic controllers of the presence of aircraft on runways is scheduled for a 2009 deployment at Boston's Logan International Airport.

Lincoln Laboratory's focus on adapting and demonstrating new, advanced capabilities to enhance existing systems results in important technology transfer opportunities. The continuing adaptation of emerging enabling technologies ensures not only that critical national systems expertise is sustained but also that additional innovations can be transitioned to the services and industry as rapidly as possible.

For information on licensing technology developed at MIT Lincoln

Laboratory, contact

MIT Technology Licensing Office
Massachusetts Institute of Technology
Five Cambridge Center, Kendall Sq.
Cambridge, MA 02142-1493
617-253-6966

For further information, contact:

Communications Office
MIT Lincoln Laboratory
244 Wood Street
Lexington, MA 02420-9108
781-981-4204



The Joint Biological Point Detection System was an earlier biosensing system to which the Laboratory contributed foundation technologies that have been transitioned to industry.



The portable PANTHER CUB sensor uses the Laboratory-developed CANARY (for Cellular Analysis and Notification of Antigen Risks) technology for detecting pathogens and soluble protein toxins. The technology has been licensed to Innovative Biosensors, Inc., who, in January 2008, began marketing a product, BioFlash, based on the PANTHER technology.

A common strategy for achieving transition is to share the “architectural recipe” and work with commercial component and subsystem suppliers to assure that technology advances demonstrated by the Laboratory can be duplicated by industry.

Lincoln Laboratory contributed foundation technologies to two systems that received the 2002 Packard Excellence in Acquisition Award:

1. The Joint Biological Point Detection System—Bioaerosol sensing and microlaser technologies for this system are in commercial production.

2. Geosynchronous Lightweight Integrated Technology Experiment (GeoLITE)—The optical communications technologies used in the GeoLITE free-space optical communications satellite demonstration system are now commercially available for use in follow-on optical communications programs.

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One reason for the Laboratory’s success in transferring technology is its participation in collaborative programs with industry. The Laboratory’s Microelectronics Laboratory, a world-class silicon integrated-circuit research facility capable of fabricating advanced prototype electronic devices, enables cooperative research programs with industry to develop advanced semiconductor manufacturing tools and processes. Such collaborations complement

Some Noted Spin-off Companies

- American Aviation, Inc.
- American Power Conversion Corp.
- Applicon, Inc.
- Arcon Corporation
- Axsun Technologies, Inc.
- Centocor, Inc.
- Computer Corporation of America
- Digital Equipment Corporation
- Dimensional Photonics, Inc.
- HighPoint Systems, Inc.
- Innovative Biosensors, Inc.
- Kenet, Inc.
- Kopin Corporation
- Lasertron, Inc.
- LightLab Imaging LLC
- Metric Systems Corporation
- MicroGlyph Systems
- MITRE Corporation
- Photon, Inc.
- Sparta, Inc.
- TeK Associates
- Telenet Communications, Inc.
- Tyco Laboratories, Inc.
- XonTech, Inc.

the Laboratory’s work on developing and prototyping new device concepts.

Transfer of technology is an important part of Lincoln Laboratory’s mission and is accomplished in several ways as circumstances allow:

- direct transfer of designs and specifications
- funded industrial development of Lincoln Laboratory–designed subsystems
- one-on-one technical meetings
- open technical seminars
- industry-wide workshops in areas of the Laboratory’s expertise
- establishment of advanced testbed systems against which industry can develop systems and verify performance

Lincoln Laboratory’s expertise in optical communications and computer security applications has engendered technology transfer via a number of patents.

Over the 57 years since the Laboratory’s inception, more than 85 high-technology companies have evolved

from the Laboratory’s technology development. These companies’ services and products range from multimedia software services to advanced semiconductor lithography. The private companies that have continually formed out of Lincoln Laboratory contribute to the defense technology industrial base. The steady formation of new Lincoln Laboratory–based companies attests to the Laboratory’s continued commitment to pursue technology that is at the forefront of the field. And, as the United States relies on high-technology firms for significant contributions to economic vitality, the Laboratory’s technology development for the DoD and other government agencies continues to open new frontiers for commercial applications. ■

Notes:

To learn more about the PANTHER technology, visit <http://www.ll.mit.edu/news/panthersensor.html>.

To see a full list of spin-off companies, visit <http://www.ll.mit.edu/about/TechTransfer/spinoffs.html>.