

The MIT Media Lab at a Glance

The Media Lab is a place where the future is lived, not imagined. Our domain is applying unorthodox research approaches for envisioning the impact of emerging technologies on everyday life—technologies that promise to fundamentally transform our most basic notions of human capabilities. Unconstrained by traditional disciplines, Lab designers, engineers, artists, and scientists work atelier-style in close to 30 research groups conducting more than 300 projects that range from neuroengineering, to how children learn, to a stackable, electric car for tomorrow's city. Lab researchers foster a unique culture of learning by doing, developing technologies that empower people of all ages, from all walks of life, in all societies, to design and invent new possibilities for themselves and their communities.

Organization The Lab is supported by more than 60 sponsors, including some of the world's leading corporations. These sponsors provide the majority of the Lab's approximately \$30-million annual budget. Businesses represented range from electronics to entertainment, furniture to finance, and greeting cards to telecommunications.

Most sponsors join the Lab as members of a consortium. Current consortia include **Things That Think**, **Digital Life**, the **Consumer Electronics Lab**, and **NEXT**, a collaboration between Taiwan's Industrial Technology Research Institute (ITRI), several Taiwanese companies, and the Media Lab. Many of the technologies and applications conceived within the consortium structure are tested and refined through experiments at MIT and in the field, in cooperation with individual sponsor organizations.

More than 40 faculty members, senior research staff, and visiting scholars lead the Lab's research program, with more than 70 other staff members supporting the Lab's research, facilities, and administration. In addition, the Media Lab vigorously engages in numerous collaborations within MIT in the form of joint academic appointments, teaching efforts, and research programs. One example is the **Communications Futures Program**, a joint effort focused on broad issues of communications—from telephony to RFID—with MIT's Sloan School of Management and the Computer Science and Artificial Intelligence Laboratory (CSAIL).

Unlike other laboratories at MIT, the Media Lab comprises both a degree-granting **Program in Media Arts and Sciences** and a research program. Graduate enrollment totals 124, with 64 master's and 60 doctoral students. In addition, approximately 20 graduate students from other MIT departments carry out their research at the Media Lab, and more than 200 undergraduates come to work at the Lab each year through MIT's Undergraduate Research Opportunities Program (UROP).

New Initiatives The Lab has recently undertaken several new research initiatives: the **Autism & Communication Technology Initiative**, which utilizes the unique features of the Media Lab to foster the development of innovative technologies to enhance and accelerate the pace of autism research and therapy; the **Center for Future Banking**, funded through Bank of America, to explore new concepts in banking by inventing and experimenting with new technologies; the **Center for Future Civic Media**, a joint program with MIT's Comparative Media Studies Program, funded through a grant from the Knight Foundation to create technical and social systems for sharing, prioritizing, organizing, and acting on information, and for developing new technologies that support and foster civic media and political action; the **Center for Future Storytelling**, created with Plymouth Rock Studios to revolutionize how we tell our stories—from major motion pictures to peer-to-peer multimedia sharing—with leading-edge technologies; **Living Labs**, a program whose goal is to understand the adoption, use, and economic effects of new communication and transaction technologies (initially socially aware mobile devices) by deploying them in companies, neighborhoods, and even cities; the **Next Billion Network**, focused on unleashing a wave of bottom-up entrepreneurship, collaboration, and wealth creation across the developing world through the development and deployment of innovative applications for mobile devices; and the **X-Reality Working Group**, which explores the fluid merger of real and virtual worlds, looking broadly at "cross reality" at several levels of scale.

A Sampling of Recent Research Achievements

SixthSense, a gestural pendant-like interface that projects digital information onto any surface, and allows the user to interact with that information using natural hand gestures. In doing so, it seamlessly integrates information with the user's physical surroundings, making the entire world a computer.

Graspables, which combine finger-touch pattern sensing with pattern-recognition algorithms to provide interfaces that can “read the user's mind.” For example, one Graspable, the “Bar of Soap,” is a hand-held device that can determine its desired operational mode, such as camera, phone, or remote control, simply based on the position of the user's hand.

CityCar, a stackable, electric, two-passenger city vehicle that will create an urban transportation network that takes advantage of existing infrastructure (such as subway and bus lines), the economy of car sharing, and cutting-edge design to change the way we live in dense urban areas.

Scratch, an open-source programming language for kids that allows them to create their own interactive stories, games, music, and animations for the Web. Scratch has reached a broad, worldwide audience during its first year of availability, with more than 120,000 users registered and more than 150,000 projects uploaded.

Nexi, a humanoid robot that possesses a novel combination of mobility, moderate dexterity, and human-centric communication and interaction abilities. With two hands, an expressive face, and multiple cameras, Nexi has enough on-board circuitry to handle low-level control tasks. Wireless networking allows researchers to use remote workstations for high-level control (including cognition) and audio/visual data processing.

Sociometric Badges, which connect individuals through an innovative sensing platform that logs voice features, proximity to others, face-to-face-interactions, and movement to create a social network diagram of badge wearers—all in real time.

The world's first **powered ankle-foot prosthesis**, an important advance for lower-limb amputees. The device propels users forward using tendon-like springs and an electric motor, reducing fatigue, improving balance, and providing a more fluid, human-like gait.

New technologies to better understand emotion-related physiological signals, which will help identify the emotional states of those who have difficulty communicating verbally (such as people with autism). The goal is to equip individuals with personalized tools to understand the regulatory influences of emotion on their own states, and also to enable scientists to accurately measure and understand the role of emotion regulation in autism.

Death and the Powers, an innovative opera scored for an ensemble of specially designed Hyperinstruments, and set on a first-of-its-kind robotic, animatronic stage. As the opera progresses, the stage “comes alive” as the main character in the drama.

Sponsorship Options at the Lab

Consortium sponsorship is the most frequently selected option. A consortium connects a group of sponsors with a group of Lab faculty and research staff focused on a common agenda. The cost of joining a consortium is \$200,000 per year, for a minimum of three years. Consortium sponsors receive full intellectual property rights—license-fee free and royalty free—to all work developed at the Lab during their sponsorship years.

Corporate Research, for \$400,000 per year, provides all the benefits of consortium sponsorship (see above) with the added benefit of an employee-in-residence at the Lab.

Graduate Fellow sponsorship, which provides the sponsor with an opportunity to connect with specific students and research groups, in areas of particular interest. The cost of supporting a fellow is \$75,000 per year. Student fellows can carry the sponsor's name, and can rotate annually.

Directed Research offers a parallel funding track to accommodate federally sponsored research and large-scale contracts.

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April 2009