

REPORT DOCUMENTATION PAGE

AFRL-SR-BL-TR-01-

0240

Blank
is for
Use of

Public reporting burden for this collection of information is estimated to average 1 hour per response, including the time for reviewing the data needed, and completing and reviewing this collection of information. Send comments regarding this burden estimate reducing this burden to Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Management and Budget, Paperwork Reduction Project (0704-0188), Washington, DC 20503

1. AGENCY USE ONLY (Leave blank)	2. REPORT DATE 1/30/2001	3. REPORT TYPE AND DATES COVERED 9/30/95 - 12/31/1999
----------------------------------	-----------------------------	--

4. TITLE AND SUBTITLE United States Japan Industry and Technology Management Training	5. FUNDING NUMBERS G AFOSR-91-0042
--	---------------------------------------

6. AUTHOR(S) Patricia Gercik	or F 49620-95-1-0528
---------------------------------	-------------------------

7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) MIT Japan Program E38-700 (292 Main Street) Cambridge MA 02139	8. PERFORMING ORGANIZATION REPORT NUMBER 5
--	---

9. SPONSORING / MONITORING AGENCY NAME(S) AND ADDRESS(ES) AFOSR/NI Building 410 Bolling, AFB Washington DC 20332-6448	10. SPONSORING / MONITORING 20010426 059
---	--

11. SUPPLEMENTARY NOTES

12a. DISTRIBUTION / AVAILABILITY STATEMENT Should be available to the public	AIR FORCE OFFICE OF SCIENTIFIC RESEARCH (AFOSR) NOTICE OF TRANSMITTAL DTIC. THIS TECHNICAL REPORT HAS BEEN REVIEWED AND IS APPROVED FOR PUBLIC RELEASE LAW AFR 190-12. DISTRIBUTION IS UNLIMITED.
---	--

13. ABSTRACT (Maximum 200 Words)

This report is being written to inform the Air Force of Scientific Research (AFOSR) of the activities of the MIT Japan Program during the period from September 1995 to December 1999.

The MIT Japan Program was founded in 1981; its main objective was to create a new generation of "Japan-aware" scientists, engineers, and managers in this country. The intellectual focus of the Program is to integrate the research methodologies of the social sciences, the humanities, and technology to approach issues confronting the United States and Japan in their scientific and technical relations. The Program is uniquely positioned to make use of MIT's extensive network of Japan-related resources, which include faculty, researchers, and library collections. The Program disseminates to its sponsors its expertise on Japanese science and technology and on how that science and technology is managed through its three core activities, namely, education, outreach, and research.

14. SUBJECT TERMS Samuels, Richard J.: MIT Japan Program: Education: Outreach: Research	15. NUMBER OF PAGES 32
--	---------------------------

17. SECURITY CLASSIFICATION OF REPORT	18. SECURITY CLASSIFICATION OF THIS PAGE	19. SECURITY CLASSIFICATION OF ABSTRACT	20. LIMITATION OF ABSTRACT Free
---------------------------------------	--	---	------------------------------------

TO: The Air Force Office of Scientific Research

FROM: The MIT Japan Program

RE: United States-Japan Industry and Technology Management Training Program
Activities, Final Report, Grant #AFOSR-91-0442, 30 September 1995 – 31 December
1999

NEW REPORT FUNDING NUMBER

F 49620-95-1-0528

TABLE OF CONTENTS

Year 5: 30 September 1995 – 29 September 1996	1
Year 6: 30 September 1996 – 29 September 1997	9
Year 7: 30 September 1997 – 29 September 1998	16
Year 8: 30 September 1998 – 31 December 1999	24

Year 5: 30 September 1995 – 29 September 1996

Education

Education has remained the MIT Japan Program's largest initiative. Training of interns prior to internship is intense and demands two years language training as well as courses on Japanese history and culture, a three-day retreat and spring training sessions.

Creating Japan Aware Professionals

Internships (Academic Year and Summer)

Of the 42 interns sent, 25 were summer interns and 7 went for six months or longer. Of this group, 9 held PhD degrees, 7 MS degrees, 11 BS degrees, and 15 were undergraduates. A variety of Japanese host institutions sponsored internships including Bank of Tokyo, Mitsubishi, Toshiba, East Japan Railway Co., and University of Tokyo.

Retreat

Intern training included an intensive three-day retreat at Endicott House, MIT's conference facility in Dedham, Massachusetts.

Although the schedule of the training varies depending on the year, students normally receive intensive case studies prepared by Program Managing Director, Patricia Gercik. These cases provide a means to gain understanding of how to become a full-fledged member of a Japanese research and business team. The cases stop at a point of impasse, and the group then analyzes the underlying cultural values, assumptions, and beliefs that are causing the behaviors described. The case studies are augmented by a series of activities that simulate the ambiguity present in cross-cultural adjustment and provoke students to think seriously about what it will take to accomplish their goals in a social system as different as Japan's. The retreat this year also included lectures and a simulation game.

(For an example of the Intern Retreat Notebook, please see attachment #12).

Japan Trip

The Program Managing Director made the annual trip to Japanese laboratories and companies to meet with interns on-site. The Program Managing Director also networked to re-establish old contacts and introduce MIT to new internship host companies.

(For an example of a Japan Trip Report, please see attachment #5).

Courses at MIT

Regular Academic-Year Language Classes

The MIT Japanese-language teaching team has been one of the best in the country. During the period under review, Professor Miyagawa has taught Japanese for 20 years. He is regarded as one of the world's top Japanese linguists. Other members of the team are: Lecturer Toshimi Nagaya, a Cornell graduate who is also considered one of the top teachers of Japanese in this county; Keiko Iijima and Rika Ikei who hold outstanding teaching skills in Japanese language.

Japanese language courses were first offered at MIT in the spring of 1988. From 1988 to August 1996, the Program has worked closely with the Department to develop and extend the Japanese language classes that are given at MIT. This academic year provided MIT students with six levels of Japanese courses. Each level provides 4 to 5 sessions each week and each class has 15 students at average. With a total enrollment of 200 students, Japanese was the most commonly taught foreign language at the Institute. Since our interns are required to have at least two years of training in Japanese language and culture, many of the students who enrolled in these language courses were our future interns.

Technical Japanese Language Project

In the period under review, the Program's Technical Japanese Language Project has been in its ninth consecutive year. The course in Technical Japanese for Computer Science and Electrical Engineering has been offered every summer since 1988; the course in Materials Science and Related Engineering (to include chemical engineering, physics, and mechanical engineering) has been given since 1992. These unique courses were: 1) at an advanced level (fourth year and above) and 2) targeted at technical fields in which Japan's accomplishments have been particularly advanced. Approximately 120 scientists and engineers participated in one of these courses, and, within U.S. industry, many made major contributions to the nation's efforts to better cooperate and compete with Japan. The Project attracted a high level of interest. Technical Japanese "graduates" entered into the Program's job bank database and were hired by Program corporate sponsors, including 3M and Xerox, where they helped negotiate and implement groundbreaking agreements with Japanese corporations and facilitate a timely bilateral flow of information. These individuals reported that they found the knowledge they gained from the technical Japanese courses invaluable.

Summer Intensive Language Class

The summer of 1996, the Program sponsored an intensive class in second-year Japanese for four interns who were unable to complete the language requirement during the regular academic year and for eight other selected students who were potential interns.

Outreach

The MIT Japan Program provided and disseminated information on Japan through on-site seminars and consulting, products such as working papers and a video series as well as an Executive Seminar. In addition, the program initiated several database projects on Japanese Technology. Finally, the Program published a Bi-monthly report on current developments in Japanese Technology. All of this created an enormous audience on Japanese technology.

Off-site Courses and Seminars on Japan

Target Seminars

The MIT Japan Program's Target Seminars worked to educate American industry and government personnel in Asian and Japanese business organization and practice. The Program worked actively with corporations on issues such as managing subsidiaries and building effective business relationship with the Japanese as well as more generalized training on Japanese business practice. Training was geared to the needs of the company and, depending on the audience, ranged from consulting to larger training sessions.

During the period under review, the Program gave 13 Target Seminars, a series of tailored modules that were either combined for one- or two-day sessions and given at MIT or, if more convenient, on site. Of these 13 seminars, eight were to the Program's corporate sponsors and five were given to government organizations; three were transmitted by satellite to multiple locations for even wider dissemination of information.

(For an example of a Target Seminar Notebook, please see attachment #11).

Executive Seminar on Japan and East Asia

May 19-23, 1996

MIT International Science and Technology Initiatives (MISTI) cosponsored our highly successful Executive Seminar on Japan and East Asia (formerly the Japan Effectiveness Training [JET] Course). Based on a model of "experiential learning," this course combined lecture, discussion, and case studies with CD-ROM, film, and video. This year's seminar's objective was to bring the participants into direct contact with East Asian business cultures and core values through business practitioners from the field, through complex case study scenarios, and through meetings with Asian professionals. From a core of common historical precedents, the participants – business and technical

managers who were directly involved with East Asian strategies and operations – learned how Japanese and Chinese business cultures developed, differentiated, and industrialized. They also looked at the evolution of interactions between the two cultures as cousins, enemies, partners, and competitors. Through the seminar, participants came away with a better understanding of:

- 1) the cultural and business practices that inform decision-making in East Asia,
- 2) the dynamics of the Asian market and how they affect strategy,
- 3) tools to succeed by building a rapid-response team,
- 4) the relationship between socializing and business in East Asia,
- 5) how to build personal networks to help circumvent bureaucratic stalemates, and
- 6) when to communicate their strategies and product plans to their Asian partners.

This year, a total 17 representatives, from our corporate and government sponsors as well from non-sponsoring organizations, attended the Executive Seminar, addressed their common needs and concerns, and came away with new understanding and strategic insights for doing business with Japan and Asia.

(For an example of the Executive Seminar Notebook, please see attachment #13).

Publications

The MIT Japan Science, Technology & Management Report

Designed for the busy executive, this report presented a snapshot view of the development and management of core technologies associated with emerging industries in Japan and the implications for the corresponding U.S. corporations and government. Each issue of the Report analyzed an emerging core technology in the light of the role of joint ventures, research consortia, trade and business associations, ministry- and agency-sponsored research activities, and private R&D linkages with the aim of providing corporate strategists and public policy makers with a critical view of the dynamic relationship in Japan between technology and the marketplace, productivity, and competitiveness. The information contained in the Report was aimed at issues of current concern to our corporate sponsors and gave our sponsors a view of Japanese industry and government cooperation and coordination.

A unique set of resources comes together in this publication. Research for the Report was undertaken mainly from primary source material in Japan by E. Keith Henry, fluent in written and spoken Japanese and who worked as a consultant for the highest levels of Fortune 500 companies in Japan. In his research, Mr. Henry had direct access to Japanese corporate and government R&D centers, ministries and agencies, corporate strategists, and market data. Contributors included professionals with first-hand experience in such fields as management consulting, engineering, political science, and journalism, including D. Eleanor Westney of MIT's Sloan School of Management, Professor Samuels, an expert on Japan's political economy and industrial technology and

other scholars at MIT. Supplemental analysis was made available to Report subscribers through e-mail.

During the period under review, topics covered in the Report included Japan's R&D networks in Asia's emerging markets, financial infrastructure supporting R&D in Japan, and trends in Japan's R&D investments.

(For examples of the "MIT Japan Program Science, Technology, and Management Report" please see attachment #2).

The MIT Japan Program Video Series

The MIT Japan Program Video Series was an important means of dissemination by which the Program educated its corporate sponsors in the face of time and budget constraints. Out of the 40 titles in the series, 12 of them added during the period under review. They cover topics ranging from partnering with Japan and Japan's role in East Asia to lean production and product design. These videos are valuable to individuals and organizations that wish to access the Program's knowledge, but are unable to attend the various workshops and symposia that we sponsored.

From Cradle to Company: The Creation of the "Shakaijin" (MITVS 95-01)

Japan Inc. in East Asia: Understanding a New Competitive Challenge (MITVS 95-02)

The Japanese Language: What Do You Really Need to Know? (MITVS 95-03)

Partnering with the Japanese (MITVS 95-04)

The History of U.S. Investment in China (MITVS 95-05)

Central and Regional Authority in China: Implications for U.S. Companies (MITVS 95-06)

China in a Global Economy: Who Swallows Whom? (MITVS 95-07)

Thinking About China: Corporate Perspectives (MITVS 95-08)

Database Information

Japanese Science and Technology Databases

During the period under review, the Program continued to make its three Japan-related databases available in order to create an ongoing dialogue with our corporate sponsors. The databases were: 1) The Japan-Aware Professionals Database – used to track the

training, development, and career progress of the Program's interns; 2) The Japan Trip Report Database – information, unique to MIT, concerning research projects being undertaken by MIT faculty in conjunction with Japanese industry; and 3) The Japan Science and Technology Experts Database – a listing of American scientists and engineers with expertise in what Japan is doing in specific scientific and technological areas.

Japanese Scientific and Technical Information Project

This project was established after dialogue with our sponsors concerning the need to create a database of automated and user-friendly information. Undertaken in cooperation with the MIT Libraries, the Program created a national resource for Japanese scientific and technical information, to serve universities, industry, and government, with a focus on the practitioner rather than the scholar. After surveying concerned academics and key personnel within corporate and government sponsors and other organizations, materials science was chosen to be the first core technology for the project. The information gathered, such as on-line bibliographies on Japanese technology, was made available to the Program's corporate sponsors who are in need of such data to enhance their competitive positions vis-à-vis Japan.

Thus the most significant achievement of the Japanese Science and Technology Information Project during the period from July 1, 1995 to June 30, 1996 was the creation of the Internet accessible database. It was released to the public in December 1995 via the Japanese Materials Science and Engineering Homepage. Since its publication, this database was accessed at an average rate of about 2,000 times per month. It was accessed from all over the world, for example from Australia, the United Kingdom, Canada, Korea, Germany, and Italy, as well as the United States and Japan. U.S. government users included the U.S. Army Research Laboratory, the Naval Ocean Systems Center, Wright Patterson Air Force Base, Idaho National Engineering Laboratory, Oak Ridge National Laboratory, NASA Ames Research Center, and the Advanced Projects Research Agency. The database was accessed by many U.S. companies such as AT&T, IBM, Motorola, Digital Equipment, Hewlett-Packard, Timken, United Technologies, Ford, Boeing, 3M, Aluminum Company of America, as well as U.S. universities such as Vanderbilt, Ohio State, the University of Pennsylvania, the University of California at Berkeley, the University of Washington, Stanford University, Texas A&M, Harvard, and, of course, MIT.

The January log file statistics showed that the three most popular types of information accessed were publications, information on companies, and translation services, in that order. This result coincided perfectly with the findings of the market research conducted during the period covered in last year's MIT Japan Program's annual report. The February and March statistics showed that there had been increasing interest in the section on materials science and engineering related databases.

The database included English-language citations and some abstracts from publications related to Japanese materials science and engineering, which included several academic journals such as the Journal of the Ceramic Society of Japan, the Bulletin of the Chemical Society of Japan, the Japanese Journal of Applied Physics, and in-house company periodicals such as Hitachi Review, Toshiba Review, and NKK Technical Report. It also included numerous links to relevant research laboratories in Japan as well as other useful information such as translator directories.

Information gathering and marketing of the project were pursued aggressively. In order to gather information, 10 Japanese academic associations and 23 university and government laboratories in the field of materials science and engineering were contacted. The project announcement was made through the MIT Libraries Press Release, Industrial Collegium Report (a publication by the MIT Materials Processing Center), and JOM (a publication of the Minerals, Metals & Materials Society). In addition, the status of the project was presented at the International Conference on Japanese Information in Science, Technology, Industry, and Business held in Newcastle, UK, in September 1995 and the Fifth Annual U.S. Department of Commerce's Technology Administration (TA) and Japan Information Center of Science as well as many other workshops and meetings.

(For a printout of the MIT Libraries' Japanese Material Science and Engineering website, please refer to attachment #4).

Meeting

JPNET: Building a Global Virtual Community at MIT for Japanese Specialists

The Program worked closely with the Japanese Language and Culture Program and the MIT Libraries to build an information service, the first such service to provide an on-line infrastructure for an entire field, i.e., Japanese language and culture education. This service created new, freely accessible educational materials. It also allowed access to library materials and information directly from Japanese universities and organizations. Program interns routinely utilized it to enrich their language ability so that they could better understand issues related to Japanese science and technology and how they could better relate to U.S. competitiveness vis-à-vis Japan.

Utilizing the latest technology information from Japan, we expanded upon a series of computerized instructional materials delivered on Athena, MIT's distributed computing system. Although the system had only been used at MIT, all the software was being written to be completely data-file driven and portable in order for it to be easily customized for a particular course and curriculum. For example Professor Miyagawa and his associates used the electronic instructional materials to create a new individualized Japanese course, which was offered in the fall 1996 semester.

The JPNET Project, funded by Canon Information System since October 1994, expanded the local MIT system to a global one. This new service addressed the needs of Japanese

language and culture specialists around the world. We provided JPNET information via as many networked delivery technologies (ftp, gopher, WWW, e-mail, etc.) and in as many formats as possible to reach the widest audience we could.

During the period under review the MIT Japan Program researched Internet information delivery mechanisms and strategies with a major focus on the World Wide Web. Our primary focus was to transfer the various on-line educational materials once resident on the Athena system to the World Wide Web. These materials, offered now through a consistent and easy-to-use Web interface, include reading materials, grammar notes, and practice quizzes.

The JPNET Project has also developed new materials to take advantage of some of the unique possibilities the Web offers as well as tools to manage its on-line information and to automate the creation process. We expanded the Project's user-base from the MIT campus to teachers and students at other educational institutions. Using the MIT materials as a prototype, JPNET developed tools for the creation and management of similar materials at other sites.

(For a print out of the JPNET homepage, please see attachment #3).

Research

The Program stayed involved in generating and disseminating research on East Asian policy, economics and culture.

The Re-emergence of Great Power Politics in East Asia: Is Japan Balancing China?

Program Director Professor Richard J. Samuels supervised this project. It involved evaluating the nature of Japanese foreign policy with regard to China. The analysis examined the nature of relations between Japan and China in a number of areas, beginning with patterns of technology transfer and the force structure of the Japanese military (i.e., the equipment and organization of Japan's armed forces as reflected by the roles and missions expected of them). It also included economic strategies, alliance politics, and diplomatic behavior. Because the implications of Japanese policy toward China are quite fundamental for the future of Northeast Asia, understanding Japanese strategy in the region as well as the implications of these strategies on the region as a whole (and on U.S. interests in it) are critical conclusions of the project for U.S. government and businesses.

Therefore, the goal of the project provided substantial amounts of evidence from a wide variety of perspectives in order to evaluate the changing nature of Japanese policy toward China. In particular, evidence of the view that Japan indeed acted as a "normal" nation and "balanced" China were investigated.

Year 6: 30 September 1996 – 29 September 1997

Education

As in every year, education was the MIT Japan Program's largest initiative. Intern training prior to internship was intense and demanded two years language training as well as courses on Japanese history and culture, a 3-day retreat and spring training sessions.

Creating Japan Aware Professionals

Internships (Academic Year and Summer)

In 1996-1997 academic year, the MIT Japan Program sent 37 interns to Japan. Of these interns, 21 were on summer internships and 17 were on internships of 6 months or longer. Within this group of interns, 6 held PhDs, 6 MS, 14 BS, and 11 were undergraduates. Samplings of host institutions include: IBM, NTT Data Corp, Canon, Nissan, and Mitsubishi Electric.

Retreat

Interns participated in an annual three-day retreat. Interns took part in lectures, simulations, and case studies to prepare for their time in Japan. The retreat created a "hands-on" education and allowed for intern bonding. Topics covered were Japanese trust building, the Japanese work ethic, and Japanese core values. The retreat was critical to a hands-on understanding of the Japanese workplace.

(For an example of the Intern Retreat Notebook, please see attachment #12).

Japan Trip

The Program Managing Director made her annual trip to Japanese laboratories and companies to meet interns on-site, re-establish old contacts, and introduce MIT to new internship host companies.

(For an example of the MIT Japan Program Trip Report, please see attachment #5).

Courses at MIT

Japanese language courses were first offered at MIT in the spring of 1988. Since that time, the Program worked closely with the Department to develop and extend the Japanese language classes being given at MIT. MIT offered six levels of Japanese courses and each level provided 4 to 5 sessions each week. Each class had 15 students at average. With a total enrollment of 200 students, Japanese was the most commonly taught foreign language at the Institute. Since our interns are required to have at least

two years of training in Japanese language and culture, many of the students who enrolled in these language courses were our future interns.

Technical Japanese Language Project

During the period under review, the Program's Technical Japanese Language Project reached its ninth consecutive year. The course in Technical Japanese for Computer Science and Electrical Engineering had been offered every summer since 1988; the course in Materials Science and Related Engineering (to include chemical engineering, physics, and mechanical engineering) had been given since 1992. These courses are unique because they were: 1) at an advanced level (fourth year and above) and 2) targeted at the technical fields in which Japan's accomplishments have been particularly advanced. Since 1988, approximately 120 scientists and engineers participated in one of these courses, and, within U.S. industry, many have made major contributions to the nation's efforts to better cooperate and compete with Japan. The Project attracted a high level of interest. Technical Japanese "graduates" were entered into the Program's job bank database and were consequently hired by Program corporate sponsors, including 3M and Xerox, where they helped negotiate and implement groundbreaking agreements with Japanese corporations by facilitating a timely bilateral flow of information. These individuals have reported that they found the knowledge they gained from the technical Japanese courses invaluable.

Summer Intensive Japanese Language Course

Scheduling and other conflicts sometimes made it impossible for a Program intern to complete the required two years of Japanese language training during the regular academic year. Therefore, the Program provided tutoring for such students. Many highly qualified graduate students applied for the Program but needed to improve their language skills in the short period of time. They received private tutoring lessons, which were given by the Japanese instructors in the MIT Language Department. The instructors reported that the students effectively learned the necessary skills. Lecturer Nagaya and Ikei also taught summer intensive language courses. The course this particular summer focused on listening and speaking skills. The total sessions offered during the summer were equivalent to a semester's regular language course. This summer, the Program sponsored an intensive class in second-year Japanese for 13 participants – 6 current program interns 7 prospective interns – who were unable to complete the language requirement during the regular academic year.

Outreach

The MIT Program expanded its outreach from 1996 to 1997 through several initiatives, which included a Long Distance learning course and target seminars on specific topics. The Distance Course generated excellent videos and working papers, which increased our dissemination of information on Japan.

Off-site Courses and Seminars on Japan

Target Seminars

During the period under review, the Program's Japan Target Seminars were a series of tailored modules that could be combined for one- or two-day sessions on-site, at MIT, and/or teleconferenced. The Target Seminar topics were developed based on an ongoing dialogue with our corporate and government sponsors. During the period under review, the Program gave 19 Target Seminars with a total attendance of approximately 400 individuals. 17 Target Seminars were given to Program corporate sponsors, and 3 were presented to government organizations.

October 10, 1996	World Wide Web Consortium
October 16, 1996	GE Aircraft Engines
November 14, 1996	AT&T
December 4, 1996	Boston Technology
December 10-11, 1996	Hanscom Air Force Base, Japan AWACs Group
January 15, 1997	AMERICAN International Group
January 16, 1997	AT&T
February 12, 1997	Undersecretary's Office for Acquisition, The Pentagon
March 3, 1997	United Technology Research Center
April 11, 1997	Xerox
April 14-15, 1997	World Wide Web Consortium
April 17, 1997	Stone & Webster
April 25, 1997	United Technology Research Center
June 5, 1997	Digital Equipment Corporation
June 6, 1997	GE Aircraft Engines
June 6, 1997	Teradyne
June 18, 1997	Stone & Webster
September 5-6, 1997	New Mexico State University (JIMT Center)
September 23, 1997	GE Aircraft Engines
September 25-26, 1997	Pacific Armaments Group, Office of the Secretary of Defense, Pentagon

Executive Seminar

Manufacturing in Japan and East Asia: Have the Stakes Changed?

October 1 - 2, 1996

MIT

The Program's Sponsor Retreat, held October 1 - 2, 1996, centered on the theme of "Manufacturing in Japan and East Asia: Have the Stakes Changed?" The goal of the program was for the attendees to broaden their knowledge of Japanese and Asian manufacturing innovations and organization, and then use this information to develop their Asian production strategies. This one-day retreat was held at MIT's Endicott House; there were 30 attendees, 16 from industry, 10 from academia, and 4 from government.

(For an example of the Executive Seminar Sponsor Retreat Notebook, please see attachment #13).

MIT Japan Program Distance Learning Initiative

In the Fall of 1996, the MIT Japan Program, in cooperation with the MISTI China Program, launched its Distance Learning Initiative. It included the existing distance learning product materials On Track, developed by Patricia Gercik. It launched a Program Video Series for the program's Video Series. The seminar series, entitled the Distance Education Series, brought together panels of experts, in the form of discussions led by a professional moderator. Offered either by video teleconferencing or satellite, the programs featured fax and phone-in interactivity, and were also videotaped for post-program distribution. Future plans for the Distance Learning Initiative include Web-based courses and additional satellite seminars.

December 3, 1996 Japan/China Satellite Seminar

March 27, 1997 Understanding Business Infrastructure in Japan and the Pacific Rim

June 10, 1997 Creating Effective Regional Strategies in Japan and the Pacific Rim

(For an example of the Long Distance Learning Course Curriculum, please see attachment #7).

Second Annual Tokyo Workshop

Japan in Transition: A New Competitive Environment?

January 27, 1997

Tokyo, Japan

This workshop was held in Tokyo on January 27, 1997, with full simultaneous interpretation. It explored the issues of change in Japan in two contexts: political/bureaucratic change and corporate/market change. Distinguished lecturers included Dr. James Abegglen, professor emeritus from Sophia University, and Diet Member Kazuo Aichi. 50 corporate sponsors attended the meeting from a range of U.S. companies including Kodak, Motorola, 3M and others.

(For an example of a Tokyo Meeting Notebook, please see attachment #10).

Publications

The MIT Japan Science, Technology & Management Report

Designed for the busy executive, each issue of The Report analyzed an emerging core technology in the light of the role of joint ventures, research consortia, trade and business associations, ministry- and agency-sponsored research activities, and private R&D linkages. The aim of this publication was to provide corporate strategists and public policymakers with a critical view of the Japan's technology, marketplace, productivity, and competitiveness. The information contained in the Report was aimed at issues of current concern to our corporate sponsors, and gave our sponsors a view of the dynamic relationships in Japanese industry and government cooperation and coordination.

During the period under review, topics covered in The Report included the changes in Corporate Japan and its relation to Japan's national goals, an analysis of the Personal Handy Phone industry, an update on the flat panel display industry, and Japan's Internet commerce industry.

(For examples of the MIT Japan Program Science, Technology and Management Report, please refer to attachment #2).

The MIT Japan Program Video Series

The MIT Japan Program Video Series was an important means of dissemination of talks by eminent scholars and prominent business people to corporate sponsors. Six studio quality videos were added to the Series during the period under review. Topics in these videos included Japan/China seminars, Business Infrastructure in Japan and the Pacific Rim, and Creating Effective Regional Strategies in Japan and the Pacific Rim.

Understanding Japanese Business Infrastructure In Japan and the Pacific Rim (MITVS 97-01)

Creating Effective Regional Strategies in Japan and the Pacific Rim (MITVS 97-02)

Distance Education Seminar IV: Building Human Capital in Japan and the Pacific Rim (MITVS 97-04)

Securing Asian Energy Investments: Geopolitics and Implications for Business Strategy (Symposium) (MITVS 97-03A, 97-03B, 97-03C, 97-03D, 97-03E)

Working Paper Series

The MIT Japan Program disseminated its research findings through Program Working Papers. Working papers were distributed to the Program's corporate and government sponsors. Sponsors could also download them from a special sponsor section on the Program web site. Upon request, working papers were provided free of charge to academics and organizations and were made available to the general public for a nominal fee.

Energy and Security Working Group of the Center for International Studies and the MIT Japan Program. Compiled by Jennifer M. Lind, 97-11

Securing Asian Energy Investments: Geopolitics and Implications for Business Strategy, Conference Report, 11-12 September 1997, Fine, Charles, George Gilboy, Geoffrey Parker, 97-10

Technology Supply Chains: An Introductory Essay
Sako, Mari, 97-09

Suppliers' Associations in the Japanese Automobile Industry: Collective Action for Technology Diffusion
Helper, Susan and Mari Sako, 97-08

Supplier Relations in Japan and the United States: Are they Converging
Nishiguchi, Toshihiro, 97-07

Intercorporate Governance: Golden Roads Toward the Best-Practice Supplier Relations
Okano, Hiroshi , 97-06

Target Cost Management and Product Development at Toyota
Lieberman, Marvin and Shigeru Asaba, 97-05

Inventory Reduction and Productivity Growth: A Comparison of Japanese and US Automotive Sectors

Helper, Susan and Mari Sako, 97-04

Does Trust Improve Business Performance?

Dept. of Political Science, MIT (Richard J. Samuels et al), 97-03

Final Adjudication and Analysis of the Third Biannual MIT Asia-Pacific Crisis Simulation

Richard Samuels & Christopher Twomey, 97-02

The Eagle Eyes the Pacific: American Foreign Policy Options In East Asia after the Cold War

S Hayden Lesbirel, 97-01

(For examples of the MIT Japan Program working paper, please see attachment #1).

Research

The MIT Japan Program actively generated research in pertinent political, national security and economic topics involving the region.

The Re-emergence of Great Power Politics in East Asia: Is Japan Balancing China?

Program Director Professor Richard J. Samuels supervised this project. It evaluated the nature of Japanese foreign policy with regard to China. Critical to U.S. government and business is understanding the assessment of Japan's economic and political strategy for China and the Pacific Rim. The analysis examined the nature of relations between Japan and China in a number of areas, beginning with patterns of technology transfer and the force structure of the Japanese military (i.e., the equipment and organization of Japan's armed forces as reflected by the roles and missions expected of them). It also included economic strategies, alliance politics, and diplomatic behavior. Since the implications of Japanese policy toward China are quite fundamental for the future of Northeast Asia, the understanding of Japanese strategy in the region as well as the implications of these strategies on the region as a whole (and on U.S. interests in it) were important conclusions of the project.

The goal of the project involved providing substantial amounts of evidence from a wide variety of perspectives in order to evaluate the changing nature of Japanese policy toward China. In particular, evidence of the view that Japan acted as a "normal" nation and "balances" China were investigated. The results of this research were published in the publications noted below.

Papers published from this project include:

Richard J. Samuels and Christopher P. Twomey, "The Eagle Eyes the Pacific: American Security Policy Options in East Asia After the Cold War," in M. Green and P. Cronin (eds.) The U.S.-Japan Alliance: Past, Present, and Future.

Richard J. Samuels and Eric Heginbotham, "Mercantile Realism and Japanese Foreign Policy During and After the Cold War," in M. Mastanduno and E. Kapstein(eds.) Realism and International Relations After the Cold War. New York: Columbia University Press.

The Theater Missile Defense Project

During the Cold War the United States transferred more military technology to Japan than to any ally except Germany. As early as the late 1970's, the US began to seek Japanese burden-sharing and technology reciprocity. By the mid-1980's, senior US and Japanese scientists agreed that the relationship was still imbalanced – that there was a problem of "symmetrical access." Despite sustained efforts to balance the bilateral flow of scientists, engineers, and of technological information, technology transfer remained one of the most prickly issues in the US-Japan relationship for the past decade. The 1989 imbroglio over the provision of F-16 technology to Japan was only the most wrenching episode among many. In 1992, the Clinton Administration pledged to pursue reciprocity in US-Japan relations – particularly in the area of defense technology – when Undersecretary Perry unveiled his "Technology for Technology Initiative" (TFT). Yet, when the United States and Japan initiated discussions for the next potential major military co-development project – Theater Missile Defense (TMD) – all linkage to TFT was dropped. The US strongly urged Japan to adopt TMD, a decision that Japan delayed. This study examined US and Japanese views about TMD in order to explore the salience of the US-Japan technology relationship in the larger contemporary alliance structure. A preliminary collaboration with the Technology Working Group of the MIT Security Studies Program was held in June 1997, bringing together Chinese, Japanese, and US TMD specialists.

Year 7: 30 September 1997 – 29 September 1998

Education

During the period under review, education remained the MIT Japan Program's largest initiative. Training of interns prior to internship was intense and demands two years language training as well as courses on Japanese history and culture, a 3-day retreat and spring training sessions.

Creating Japan Aware Professionals

Internships

In the 1997-1998 academic year, 33 interns were sent to Japan. Of the 33 interns, 20 were summer internships. 10 were undergraduate students and the remaining 23 held a BS degree or higher. Companies included Nippon Steel Corporation, Fujitsu Laboratories, Toshiba Biomedical Engineering Lab, Advanced Telecommunication Research Center, Electrotechnical Laboratory, and Trimble Japan.

Retreat

Intern training included an intensive two-day retreat at Endicott House, MIT's conference facility in Dedham, Massachusetts.

Students received intensive case studies prepared by Program Managing Director, Patricia Gercik. These cases provided a means to gain understanding of how to become a full-fledged member of a Japanese research and business team. The cases stopped at a point of impasse, and the group then analyzed the underlying cultural values, assumptions, and beliefs that are caused the behaviors described. The case studies were augmented by a series of activities that simulated the ambiguity present in cross-cultural adjustment and provoked students to think seriously about what it will take to accomplish their goals in a social system as different as Japan's.

(For an example of the Intern Retreat Notebook, please see attachment #12).

Japan Trip

The Program Managing Director made her an annual trip to Japanese laboratories and companies to meet interns on-site, re-establish old contacts, and introduce MIT to new internship host companies.

(For an example of an MIT Japan Program Trip Report, please see attachment #5).

Courses at MIT

Regular Academic-Year Language Classes

Japanese language courses were first offered at MIT in the spring of 1988. Since that time the Program worked closely with the Department to develop and extend the Japanese language classes being given at MIT. MIT provides six levels of Japanese courses and each level provides 4 to 5 sessions each week. Each class has 15 students at average. With a total enrollment of 200 students, Japanese was the most commonly taught foreign language at the Institute. Since our interns must have at least two years of training in Japanese language and culture, many of the students who enrolled in these language courses are our future interns.

Technical Japanese Language Project

The course in Technical Japanese for Computer Science and Electrical Engineering has been offered every summer since 1988; the course in Materials Science and Related Engineering (to include chemical engineering, physics, and mechanical engineering) has been given since 1992. These courses were unique because they were: 1) at an advanced level (fourth year and above) and 2) targeted at technical fields in which Japan's accomplishments have been particularly advanced. Thus far the scientists and engineers that have participated in one of these courses, have made major contributions to the U.S. industry nation's efforts to better cooperate and compete with Japan. The Project to attracted a high level of interest. Technical Japanese "graduates" were entered into the Program's job bank database and were hired by Program corporate sponsors, including 3M and Xerox, where they helped negotiate and implement groundbreaking agreements with Japanese corporations and facilitate a timely bilateral flow of information. These individuals report that they find the knowledge they have gained from the technical Japanese courses invaluable.

Tutoring and Summer Intensive Language Classes

Scheduling and other conflicts sometimes made it impossible for a Program intern to complete the required two years of Japanese language training during the regular academic year. Therefore, the Program provided tutoring for such students. Many graduate students, highly qualified to apply for the Program but needed to improve their language skills in the short period of time, received private tutoring lessons. The MIT Language Department Japanese instructors provided the tutoring lessons and reported that the students learned the necessary skills. Lecturer Nagaya and Ikei of the MIT Language Department, taught summer intensive language courses. The summer course focused on listening and speaking skills. The total sessions offered during the summer were equivalent to a semester's regular language course. 15 students at average attended the summer intensive course.

Outreach

The MIT Japan Program increased its outreach program during the period under review. Target Seminars were in high demand and the Program tailored the seminars to company and government needs. In addition, the Program initiated Networking Meetings at MIT on pertinent topics.

Off-site Courses and Seminars on Japan

Japan East Asia Target Seminars

The Program's Japan East Asia Target Seminars were tailored to the specific needs of our sponsors. Seminars were either one or two day on-site sessions, problem-solving meetings, or regular teleconferenced calls to address particular issues of concern. Using this flexible approach, the Program provided information and advice to managers who were addressing communication and other issues on both sides of the Pacific. Topics for formal seminars were developed through an ongoing dialogue with our corporate and government sponsors. Drawing from expertise in the areas of technology, management, and strategy available at MIT, seminars cover critical areas as technology transfer, corporate strategy in Asia, cross-cultural team building, culture and negotiation, and business systems and organization. During the period under review, the Program gave 19 Target and Custom Seminars with a total attendance of approximately 400 individuals. 16 Target Seminars were given to Program corporate sponsors, and 3 were presented to government organizations.

October 15, 1997	Boston Technology
October 17, 1997	Middlesex County Community College
October 29, 1997	Naval Air System Command Base, Maryland
December 4, 1997	GM/Delphi Harrison
December 10, 1997	Hanscom Air Force Base
January 7, 1998	Haemoneitcs
January 15, 1998	Trimble Navigation
March 19, 1998	Air Force Office of Scientific Research, US Embassy, Tokyo
March 30, 1998	Lutron Electronics
April 7, 1998	GE Aircraft Engines
April 16, 1998	Kodak
April 22, 1998	GE Aircraft Engines
April 28, 1998	GE Aircraft Engines
May 4-5, 1998	3M Corporation
May 14, 1998	GE Aircraft Engines
June 3, 1998	IBM
September 1, 1998	Xerox

September 3, 1998 UTC
 September 10, 1998 UTC

(For an example of a Target Seminar Notebook, please see attachment #11).

Executive Seminar on Japan and East Asia
 September 22-25, 1998

The Program's annual three day Executive Seminar on Japan and East Asia drew on MIT's considerable expertise in Asia studies. The program included lectures, discussion, case studies, and concluded with a dynamic simulation game that drew on the cultural and economic information in the course. The focus of the seminar was to provide information critical to successful business in the changing Asian environment. Leading scholars and practitioners such as Lucien Pye, Eleanor Westney, and Steven Vogel addressed forecasts of the implications of the "Big Bang" in Japan, as well as changes occurring in China for US business in detail. The seminar, held at the MIT Endicott House, provided an ideal environment for networking.

(For an example of the Executive Seminar Notebook, please see attachment #13).

The Japan East Asia Network

MIT Japan Program responded to the dialogue with our sponsors about the tremendous changes occurring in Japan and East Asia by initiating the Japan East Asia Network. The Japan East Asia Network was a series of meetings that brought together sponsor companies to address specific issues of concern and to share experiences for mutual benefit. These half-day meetings were held at the MIT Faculty Club and were organized around particular topics of interest to sponsors. The Program has invited experts from MIT and industry to chair the sessions that addressed crucial issues. The workshop format allowed our sponsors to share their own experiences and their views of best practice.

D. Eleanor Westney, Professor in the Strategy and International Management Group at the MIT Sloan School and Associate Director of the MIT Japan Program chaired the Japan East Asia "pilot" networking session, *Supporting Technical Support*, held on January 26, 1998. The meeting focused on the complex but strategically critical issues confronting U.S. firms with technical support functions in Japan, which provide a key interface between Japanese customers and the technology development groups in the U.S.

Linking R&D Organizations across the Pacific was held on March 27, 1998, for Program sponsors that have built strong, highly capable R&D centers in Japan. The discussion centered on the challenge of improving U.S. access to the Japan-based technology and Japan-based technology development capabilities for the rest of the global network in U.S. firms.

The June 26, 1998 networking meeting, *Technology Transfer and Corporate Strategy in Asia*, chaired by Program Director Professor Richard J. Samuels, addressed the complex, dynamic, and strategically critical issues confronting U.S. firms as they interact with host economies that demand technology transfer and as they compete with foreign multinationals that may respond differently to these demands.

(For examples of Network Meeting agendas and the notebook, please see attachment #6).

Distance Education Series

The MIT Japan Program, in cooperation with the MISTI China Program, launched the Distance Learning Initiative Series in 1996 to deliver MIT expertise in critical areas of concern in-house to corporations around the country. In dialogue with sponsors, the Program identified human resources as a critical issue of concern as they expand their offices to Japan, China, and East Asia. In response, the Program broadcast *Building Human Capital in Japan and China* on December 7, 1997. Issues of job rotation, locating credible technologists, managers, and workers, building effective human networks, managing human resources in joint ventures, and communication with the home office were of vital interest. The impact of the differences in all these areas between Japan and China was emphasized. The program featured fax and phone-in interactivity. They were also videotaped for post-program distribution. This highly successful program was broadcast to sixteen sites nationwide.

- | | |
|------------------|---|
| March 27, 1997 | <u>Understanding Business Infrastructure in Japan and the Pacific Rim</u> |
| June 10, 1997 | <u>Creating Effective Regional Strategies: Integrating Technology, Product, Country, and Corporate Goals in Japan and the Pacific Rim</u> |
| December 9, 1997 | <u>Building Human Capital in Japan and the Pacific Rim</u> |

(For an example of a Long Distance Learning Curriculum, please see attachment #7).

JPNET

The Program worked closely with the MIT Japanese Language and Culture Program and the MIT Libraries to build an information service, the first such service to provide an on-line infrastructure for an entire field, i.e., Japanese language and culture education. This service created new, freely accessible educational materials and access to library materials and other information directly from Japanese universities and other organizations. It was routinely utilized by Program interns to enrich their language

ability so that they could better understand issues related to Japanese science and technology and how they related to U.S. competitiveness vis à vis Japan.

Utilizing the latest information technology, we expanded upon the past development of a series of computerized instructional materials originally delivered on Athena, MIT's distributed computing system. The program continued its research into World Wide Web information delivery mechanisms and strategies. All MIT-developed educational materials for the first two years of the MIT Japanese Language program were made available through an easy-to-use Web interface. The material included reading materials, grammar notes, on-line review materials, and self-check quizzes. In addition, a new fourth-year course was developed and delivered successfully to a group of our most advanced students. This course put a heavy emphasis on use of computer technology. The Web was used for delivery of both teacher and student-generated materials. Students could also find advanced level material pertinent to their own fields of research to use as study materials throughout the year.

This past year, the Project established collaborative relationships with other Japanese language programs at both the secondary and university levels. It provided us with the opportunity to experiment with flexible interface and material design.

The Program worked closely with the Japanese Language and Culture Program and the MIT Libraries to build an information service, which would provide an on-line infrastructure for Japanese culture and education. The service created new educational materials in the area of language and culture as well as allowing access to library materials and other from Japanese universities and other organizations.

During the period under review, the average number of accesses to the JPNET was 220,000 per month during the academic year.

(For an example of the JPNet website, please see attachment #3).

Language Course through JPNET

The Japanese language faculty at MIT, under the direction of Professor Shigeru Miyagawa, created a technically advanced program of computerized curricular materials at MIT. The computer-aided instruction consisted of on-line dictionaries and materials related to technical Japanese for delivery over JPNET.

Again this summer, the Program sponsored an intensive class in second-year Japanese for 9 participants – 3 current program interns and 6 prospective interns – who were unable to complete the language requirement during the regular academic year.

World Wide Web Resources

During the period under review, the Program created a password access area exclusively for Sponsors of the Program. After an overall redesign of the website, sponsors in need of Japan-experienced professional could search by keyword, name, or field of expertise the resumes of Program intern graduates. They could also access the Japan Trip Report Database, which provided information concerning research projects being undertaken by MIT faculty in conjunction with Japanese industry. In addition, full-text versions of key MIT Japan Program Working Papers were made available, as were current issues of The Report, in PDF format.

Tech-J Project: An On-Line Courseware for Instruction in Technical Japanese

During the period under review, in cooperation with Professor Shigeru Miyagawa of the Foreign Language Department, the Program supported a new project, called 3Tech-J2. This Technical Japanese course, aimed at US managers who have a good speaking ability in the language, was made available through the worldwide web. The Program drew upon its experience of teaching technical Japanese at MIT and Professor Miyagawa's web-based Japanese language course made available on JP Net at MIT.

In addition to the self-explanatory materials, the course also offered individualized instructions, exercises and research opportunities depending on the learner's needs. The material also provided rich background information and resources on specific topics with an emphasis on the work of Japanese scientists that have excelled in a particular field.

Database Information

Japanese Scientific and Technical Information Project

The goal of this project was to create an automated and user-friendly database of information. Undertaken in cooperation with the MIT Libraries, the Program created a national resource for Japanese scientific and technical information, serving universities, industry, and government, with a focus on the practitioner rather than the scholar. After a survey of concerned academics and key personnel within corporate and government sponsors and other organizations, materials science was chosen to be the first core technology for the project. The information gathered, such as on-line bibliographies on Japanese technology, were made available to the Program's corporate sponsors who were in need of such data to enhance their competitive positions vis-à-vis Japan.

Since the Japanese Materials Science and Engineering Web site was released to the public in December 1995, much of our efforts have focused on keeping the current links updated, and expanding the contents of the site in order to provide better services to the user. A search function using the Harvest program was incorporated in September 1996, to allow users easier access to relevant information. Under the general Science and Technology Information section, a page for Japanese patent information was created during the period under review. Links to the Japanese patent office, Japan Patent

Information Organization (JAPIO), Japan Institute Of Invention And Innovation (JIII), and ISTA, a company that specializes in Japanese patent, utility model & trademark information, were added. The Company Laboratories page was expanded, and the Materials Science And Engineering-Related Database page was updated.

The total number of requests processed by the Web server during the period from February to September 1996 was more than 12,000. The average number of monthly requests was over 1500. In the period from January to April 1997, the average number of monthly requests was 3000, a doubling from the year before. These numbers represented only requests for the text pages. Data on requests for image files and errors were excluded for better representation of the actual usage of our Web site.

Our analysis indicated that 56% of "hits" came from the U.S., 15% from Japan, and 12% from all other countries combined. The remainder (17%) was not identified. Of all the hits from the U.S., more than half (55%) was from MIT. Hits from the commercial domain accounted for 23%, other educational institutions 12%, network (mainly commercial network service providers such as America Online or CompuServe) 7%, followed by the U.S. government and military at 3%.

U.S. government users included the U.S. Army Research Laboratory, the Naval Ocean Systems Center, Wright-Patterson Air Force Base, Idaho National Engineering Laboratory, Oak Ridge National Laboratory, NASA Ames Research Center, and the Advanced Projects Research Agency. The database is accessed by many U.S. companies such as AT&T, IBM, Motorola, Digital Equipment, Hewlett-Packard, Timken, United Technologies, Ford, Boeing, 3M, Aluminum Company of America, as well as U.S. universities such as Vanderbilt, Ohio State, the University of Pennsylvania, the University of California at Berkeley, the University of Washington, Stanford University, Texas A&M, Harvard, and, of course, MIT.

The top five pages accessed most frequently are the index page, academic journals page, databases page (materials science- and engineering-related), academic societies and industrial associations page, and company laboratories page.

(For an example of the MIT Libraries and Japanese Materials Science and Engineering website, please see attachment #4).

Meetings

Symposium, Securing Asian Energy Investments: Geopolitics and Implications for Business Strategy

Informed by the research of the Working Group on Asian Energy, the symposium *Securing Asian Energy Investments: Geopolitics and Implications for Business Strategy* was held at MIT on September 11-12, 1997. Attended by over 200 professionals from industry, academia, and government, the conference was a tremendous success. John M.

Deutch, former Director of Central Intelligence, and currently Institute professor at MIT, kicked off the meeting with a keynote address. The meeting included other distinguished professionals in the field such as Katsuhiko Suetsugu, Director-General of the Asia-Pacific Energy Forum. The symposium centered on the theme of the geopolitical, economic and environmental implications of the continuing rise in demand for energy in Asia and addressed the critical questions relating to Asian energy consumption and the manner in which they need to be met. The symposium provided participants with a framework for what foreign corporations must do to help meet both the demand for more energy and the demands of their shareholders.

(For an example of the Research Working Group on Asian Energy and Security at MIT symposium, please see attachment #9).

Publications

The MIT Japan Program Working Papers

The MIT Japan Program disseminated its research findings through Program Working Papers. Working papers were distributed to the Program's corporate and government sponsors. Sponsors could also download them from a special sponsor section on the Program web site. Upon request, working papers were provided free of charge to academics and organizations and are made available to the general public for a nominal fee.

Intellectual Property Rights in Japan--Has Anything Really Changed?

Robert A. Myers, 98-05

Personnel Practices in Japanese Government

Marcus, Michael J. and Micahel Marcus, 98-04

Country Survey XII: Japan's Security Posture and Defense Industry Prospects

Chinworth, Michael, 98-03

The United States and Japan: Technological Partners or Competitors

Chinworth, Michael, 98-02

Japan's Defense Technology Alternatives: Non-U.S. Sources of Foreign Military Technology

Bart, Aaron, 98-01

(For an example of the MIT Japan Program Working Papers, please see attachment #1).

Research

The MIT Japan Program generated research in pertinent political, national security and economic topics involving the region.

The Asian Economic Crisis and Technology Innovation Systems

Under Research Director Dr. William Keller, the Program's current research agenda examined technology development and the East Asian Crisis: the ways in which, and to what extent, the Asian economic crisis is changing Asian technology innovation systems and what this means for US-based global corporations doing business in the region. The change may potentially alter the way business is transacted in Asia, in some instances providing increased opportunity for foreign acquisition of technology assets. Change could mean a sharp cut in regional investment in science and technology. It could also alter the technology strategies of European, Asian, and US companies. The Program sought to identify clear trends regarding the directions of change affecting the Asian technology base. Working closely with sponsors, the Japan Program brought together a select group of academic and business researchers to identify the countries to be most closely studied in a preliminary workshop.

Dr. Keller comes to the Program from the Monterey Institute of International Studies where he served as Deputy Director of the Center for Trade and Commercial Diplomacy. From 1987-95, he directed international projects at the Office of Technology Assessment in Washington, DC where he frequently led research teams to Asia. At OTA, he directed projects on international collaboration in military technology, the arms trade, foreign direct investment, and technology development patterns of multinational firms. Dr. Keller's research interests include Japan/East Asia economic and security issues, science and technology policy, the political economy of multinational corporations, and international security.

(For an example of the Innovations and Crisis Research website, please see attachment #8).

Year 8: 30 September 1998 – 31 December 1999

Education

Education remained the MIT Japan Program's largest initiative. Training of interns prior to internship was intense and demanded two years language training as well as courses on Japanese history and culture, a 3-day retreat and spring training sessions.

Creating Japan Aware Professionals

Internships

In the 1998-1999 academic year, 31 students were sent on internships. 20 of these internships were summer internships. Of the 31 students, 14 were undergraduates and 17 held BS degrees or higher. Interns this year were sent to a varied group of companies including Ishikawajima-Harima Heavy Industries, IBM Research Lab, NTT Data, and Sony Computer Science Lab.

Retreat

Intern training included an intensive two-day retreat at Endicott House, MIT's conference facility in Dedham, Massachusetts. (January 29-31, 2000)

Students received intensive case studies prepared by Program Managing Director, Patricia Gercik. These cases provided a means to gain understanding of how to become a full-fledged member of a Japanese research and business team. The cases stop at a point of impasse, and the group then analyzed the underlying cultural values, assumptions, and beliefs that are causing the behaviors described. The case studies were augmented by a series of activities that simulate the ambiguity present in cross-cultural adjustment and provoked students to think seriously about what it would take to accomplish their goals in a social system as different as Japan's.

Japan Trip

The Program Managing Director made an annual trip to Japanese laboratories and companies to meet interns on-site and re-establish old contacts and introduce MIT to new internship host companies.

Courses at MIT

Regular Academic-Year Language Classes

Japanese language courses were first offered at MIT in the spring of 1988. Since that time, the Program worked closely with the Department to develop and extend the Japanese language classes being given at MIT. There were six levels of Japanese courses and each level provided 4 to 5 sessions each week. Each class had 15 students at average. With a total enrollment of 200 students, Japanese was the most commonly taught foreign language at the Institute. Since our interns must have at least two years of training in Japanese language and culture, many of the students who enrolled in these language courses were our future interns.

Tutoring and Summer Intensive Language Classes

Scheduling and other conflicts sometimes made it impossible for a Program intern to complete the required two years of Japanese language training during the regular academic year. Therefore, the Program provided tutoring for such students. Many graduate students, who were highly qualified to apply for the Program but needed to improve their language skills in the short period of time, received private tutoring lessons. Japanese instructors of the MIT Language department provided these tutoring lessons. They reported that the students effectively learned the necessary skills. Lecturer Nagaya and Ikei taught summer intensive language courses. The summer course focused on listening and speaking skills. The total sessions offered during the summer were equivalent to a semester's regular language course. 15 students at average attended the summer intensive course.

Outreach

The MIT Japan Program continued its active outreach with a series of meetings on pertinent issues. The Program expanded its target seminars and had two well-attended major meetings on Japan's economic standing. One was held at MIT and the other held in Tokyo, Japan. The Program also continued its successful networking series at MIT as well as dissemination of its products.

Off-site Courses and Seminars on Japan

Target Seminars

MISTI's Japan East Asia Target Seminars were tailored to the specific needs of our sponsors. Seminars were either one or two day on-site sessions, problem-solving meetings, or regular teleconferenced calls to address particular issues of concern. Using this flexible approach, the Program provided information and advice to managers who were addressing communication and other issues on both sides of the Pacific. Drawing from expertise in the areas of technology, management, and strategy available at MIT, formal seminars covered such critical areas as technology transfer, corporate strategy in Asia, cross-cultural team building, culture and negotiation, and business systems and organization. This year, a discussion of goals and issues segment at the beginning of each seminar proved highly effective in identifying issues of concern to the group. This enabled the group's problems to be incorporated into the course and also into the closing strategy/problem-solving session. Out of the 23 Target Seminars the Japan Program facilitated during the period under review, 22 were for sponsors of the program and one was for a government group.

November 4, 1998	UTRC
November 5, 1998	Fairchild Semiconductor
December 2, 1998	3M
January 28, 1999	Comverse Network Systems
April 6,	Ford
April 9, 1999	Xerox Corporation
April 28, 1999	Teradyne Inc.
May 13-14, 1999	3M
May 19, 1999	General Electric, Japan
June 22, 1999	3M
June 25, 1999	Trimble Navigation
July 9, 1999	Teradyne Inc.
July 14, 1999	Carrier Corporation/ United Technologies Corporation
August 17, 1999	Hanscom Air Force Base
September 9, 1999	Xerox Corporation
September 13, 1999	IBM Corporation
October 4-5, 1999	Novellus Systems
October 22, 1999	Lutron Electronics

November 5, 1999	Xilinx
November 8, 1999	IBM Corporation
November 10, 1999	Fairchild Semiconductor
November 17, 1999	Ford Motor Company
December 3, 1999	Xilinx

(For an example of the Target Seminar notebook, please see attachment #11).

Networking Meetings

This year MISTI continued its very successful *Japan East Asia Network* series of meetings to bring together sponsor companies to address specific issues of concern and to share experiences. MISTI worked closely with sponsors to select meeting topics and invited experts from MIT and industry to chair the sessions. The workshop format allowed our sponsors to share their own experiences through short case studies and to network with other professionals. Seminars during the period under review included:

Japan East Asia Network: Session VI

September 16, 1999

Target Tokyo: Has Japan Become an Outright 'Buy' for Foreign Investors, and If Not Why?

Chaired by David Asher, MIT Japan Program

Japan East Asia Network: Session V

May 14, 1999

China's Prospects Post Asian Financial Crisis: Markets, Restructuring and Growth

Chaired by Professor Edward Steinfeld, MIT Sloan School of Management

(For an example of a Networking Meeting notebook, please see attachment #6).

Meetings

January Meeting

From Bullying to Buying: Opportunities for Foreign Investment in Japan

MIT Wong Auditorium and MIT Faculty Club

January 11-12, 1999

The MIT Japan Program held a conference entitled "From Bullying to Buying: Opportunities for Foreign Investment in Japan" at the Massachusetts Institute of Technology in Cambridge, Massachusetts, on January 11 and 12, 1999. Speakers at the conference addressed the current state of the Japanese economy and prospects for improvement, the program of deregulation and reform taking place in Japan, and practical approaches to seeking and evaluating opportunities for acquisitions and investment in

Japan. The speakers included leading economists and financial analysts, managers of leading manufacturing and service-sector firms, and representatives from government and academia.

Tokyo Meeting

Japanese Capitalism: Changing at Last or Changing at Least?

May 20, 1999

International House of Japan, Tokyo, Japan

This meeting addressed Japan's confrontation of the challenge of reform. The Asian crisis affected Japan's financial and banking sectors. In addition, the anticipation of the "Big Bang" generated significant initial stirrings among foreign investors. Leading experts and professionals participated in this important dialogue on Japan's economic restructuring and the opportunities and challenges it presented leaders on both sides of the Pacific.

Former Prime Minister Ryutaro Hashimoto and U.S. Ambassador Thomas Foley presented the keynote addresses at the meeting, which included panels on the Japanese economy, political economics, recent trends in corporate strategies, and the merger and acquisition environment. Simultaneous interpretation was provided.

(For an example of the Tokyo Meeting notebook, please see attachment #10).

Publications

Working Papers

The MIT Japan Program disseminated its research findings through Program Working Papers. Working papers were distributed to the Program's corporate and government sponsors. Sponsors could also download them from a special sponsor section on the Program web site. Upon request, working papers were provided free of charge to academics and organizations and are made available to the general public for a nominal fee.

The IBM Origins of Display Technologies, Incorporated

Robert Myers, 99-01

From Bullying To Buying: Opportunities for Foreign Investment in Japan Conference Report

Compiled by Andrew Tagliabue, MIT Department of Political Science, 99-02

Japan's Technology Ideology and Aeroengine Development

Richard Samuels, Ford International Professor, Dept. Of Political Science, MIT, 99-03

The Japanese Venture Capital Industry
Seth Hurwitz, 99-04

Could Japan's Financial Mount Fuji Blow It's Top?
David Asher and Robert Duggins, MIT-JP 00-01

The Frontiers of E-Business: US and Japanese Visions of the Future, Proceedings of
Tokyo Meeting
Larry Isaacson, MIT-JP 00-02