

A GLOBAL STRATEGY FOR MIT

Richard K. Lester

Associate Provost

May 2017

Preface

I am pleased to submit this strategic plan for consideration by President Reif, Provost Schmidt, and the MIT community.

The review on which this plan is based was mostly carried out before last November's presidential election. The election and its aftermath have required a hard look at many prior assumptions and ideas. The international environment for MIT may be affected significantly, not only by the outcome of our own election but also by disruptive developments in other parts of the world. I have tried to assess the implications for MIT's international activities. As more becomes known, this analysis will likely need to be revised. But guidance is needed now. The MIT community is dynamic and action-oriented, and students and faculty cannot be expected to put their plans and aspirations on hold. Moreover, while the international environment will likely change, MIT's mission and values will not. As President Reif has observed, "whatever may change in Washington ... it will not change the values and mission that unite us." Learning about the world, helping to solve the world's greatest problems, and working with international collaborators who share our curiosity and commitment to rigorous scientific inquiry are core values for MIT. Accordingly, I am recommending an approach to international engagement that is aligned with MIT's values and mission, while also taking account of the changing international environment.

In preparing the plan I and my team consulted widely (I myself met with over 400 members of the MIT community). I am grateful for the time that MIT faculty, students, and staff spent helping us. We also benefited from conversations with external advisors and with colleagues at peer universities. Having discussed the plan with many different groups on campus, I believe there is considerable support for the recommendations it contains. Some of these recommendations can be implemented immediately, while others will require further discussion. The plan also presents a framework for thinking about MIT's role in the international arena, as well as some new ideas that need further development. Not everyone will agree with everything in this framework, but if it proves useful when future decisions about the Institute's international activities are taken it will have served an important purpose. Such decisions must be made with the same high standards of thoughtfulness and rigor that MIT applies to any major decision affecting its education and research activities. An important objective of this report is to help ensure that these standards are met.

During this uncertain period we must not lose sight of the vital role of international activities in sustaining MIT's excellence and leadership in education and research. I believe that the approach described in this plan will provide new opportunities for international engagement by faculty and students. Focusing the energy and creativity of the MIT community on these activities will help to sustain and strengthen this great institution.

— Richard Lester

Acknowledgement

Preparation of this report was supported by an outstanding team led by Cecelia Wardle, Director of Special Projects in the Office of Major Agreements, and also including Robin Lemp, Director of the Office of Major Agreements; Magdalene Lee, Assistant Director of the Office of Major Agreements; and Bernd Widdig, Special Assistant to the Associate Provost for International Activities. They have been invaluable partners in this work and I am grateful for their many excellent contributions.

Contents

EXECUTIVE SUMMARY • 1

INTRODUCTION • 7

HOW MIT ENGAGES WITH THE WORLD TODAY • 11

- The MIT campus, open to the world, is becoming increasingly international • 11
- The MIT community is becoming increasingly active around the world • 12
- A majority of MIT faculty members take part in international education, research, and service activities • 14
- First-of-a-kind impacts • 15
- The trademarks of “global MIT” • 15
- Administrative challenges • 16
- Faculty perspectives on MIT’s international activities are generally positive, though with some reservations • 17

HOW MIT’S ENGAGEMENT WITH THE WORLD WILL CHANGE • 18

GOALS AND PRINCIPLES FOR GLOBAL ENGAGEMENT • 20

RECOMMENDATIONS • 24

- I. Bringing MIT to the World • 24
 - I.A. Build new *MIT Partnerships for a Better World* • 24
 - I.B. Expand MIT’s global classroom • 27
 - I.C. Streamline and strengthen international educational assistance/institution-building programs • 28
- II. Bringing the World to MIT • 28
 - II.A. Develop a new MIT Global Leaders program • 28
 - II.B. Review the cap on international undergraduate admissions • 29
- III. Strengthening Governance and Operations • 30

THE UNCERTAIN OUTLOOK FOR INTERNATIONAL ENGAGEMENT • 31

FINAL NOTE • 34

APPENDICES • 35

- Appendix 1:** Process • 35
- Appendix 2:** Overview of large MIT institution-building programs • 37
- Appendix 3:** Interviews with peer universities—key takeaways • 40
- Appendix 4:** Previous MIT reports on international engagements • 42

EXECUTIVE SUMMARY

This plan addresses three important questions for MIT over the coming decade:

- How can our international activities best contribute to advancing the frontiers of knowledge in science, technology, and other areas of scholarship?
- How can they help bring forefront knowledge to bear on solving the world's most challenging problems?
- How can they contribute to educating future leaders who will work creatively, cooperatively, effectively, and wisely for the betterment of humankind?

MIT's international activities have been growing rapidly, and further growth is likely. Our students are seeking more high-quality opportunities to learn about and engage with the world. Our faculty members are finding more opportunities to collaborate with international colleagues. And MIT itself, at the top of the international university rankings and widely recognized for its strength in combining innovation with research and education, is much in demand as a partner by governments and universities around the world.

Individual faculty members initiate and implement most of MIT's international activities. The role of the MIT administration is to encourage and support these activities and to safeguard faculty members' freedom to pursue them. In addition, MIT sometimes seeks to act internationally on a larger scale. In the past, MIT could be reactive, responding to major international opportunities as they arose. But today these activities claim a significant share of the Institute's scarcest and most valuable resource—the time and attention of the faculty. We cannot do everything we might want to do, and we cannot be everywhere in the world. Priorities are therefore needed.

This plan envisions a new and less provisional phase of international engagement for MIT. The plan is designed to create a more robust and durable platform to support the international initiatives of individual faculty, while also establishing a principled framework for selecting and undertaking larger-scale activities to increase MIT's impact in the world.

The plan calls for MIT to:

1. Build new *MIT Partnerships for a Better World*.

The purpose of these partnerships is to promote and coordinate faculty- and Institute-level collaborations in different regions of the world. We should: (1) establish standing faculty working groups, by region, to provide strategic advice and develop regional action plans; (2) hold periodic MIT summits in targeted regions to increase our visibility and provide a focus for establishing new collaborations and developing new resources, with the first such summit in China in 2018; and (3) expand international seed funds and build new funds to support research and educational collaborations between MIT faculty and their counterparts abroad. While the faculty will continue to pursue their professional goals around the world, there should be a new focus on three regions—China; Mexico,

Brazil, and other parts of Latin America; and Africa—that have been underrepresented in the MIT portfolio of activities previously and that have high potential for impactful engagement.

2. Commit to providing an MIT-quality international educational experience to every undergraduate who desires one.

We should continue building out MIT's distinctive 'global classroom', in which our students learn about the world through hands-on, practical problem-solving projects, ideally in collaboration with fellow-students in other societies and with our faculty as guides.

3. Streamline our approach to international institution- and capacity-building.

This should include: (1) consolidating and standardizing key services that are provided in these programs; (2) delivering more such services at MIT to reduce travel burdens on our faculty and staff; and (3) developing smaller-scale offerings that are accessible to smaller or poorer countries.

4. Explore the feasibility of a new MIT Global Leaders program.

We should convene a faculty group to consider a new kind of global leadership development program at MIT, with the theme of wise, humane, and effective applications of science and technology. This graduate program would involve deep immersion in a technical field, academic rigor, interdisciplinarity, cohort-building activities, and active involvement in problem-solving and in translating research ideas to impact.

5. Review the cap on international undergraduate admissions.

The review, which should be conducted by the Committee on Undergraduate Admissions and Financial Aid, should consider impacts on the financial aid budget as well as the availability of places for domestic students.

6. Strengthen the governance of MIT's international activities.

A new external advisory committee should be established to provide focused, expert advice on international programs, strategies, and plans. Additionally, the current International Advisory Committee should be reconstituted as an administrative committee of the Institute, providing independent faculty assessments of proposed, ongoing, and completed activities in relation to MIT's core teaching, research and service objectives.

7. Improve operational support.

A strategic communications plan should be developed, focusing on how best to present MIT's international activities and aspirations to key domestic and international stakeholders. Also, our existing administrative support structures and services should be reviewed to identify and prioritize new opportunities to strengthen support for faculty international engagements.

This plan also identifies **eight core principles** to guide MIT's international engagements:

1. Working internationally and achieving international impact are essential to achieving MIT's mission of service to the nation and the world. If MIT is to continue at the forefront of education, research, and innovation in the 21st century, our geographic reach and aspirations must be global.
2. MIT is an American institution. When members of the MIT community operate internationally they must be in compliance with relevant U.S. laws and regulations, and when MIT considers major new international engagements it must be cognizant of the national interest.
3. Wherever MIT faculty, staff, and students are working in the world, they should be guided by the same core values that inform life and work at MIT itself. We obviously cannot require other societies to conform to our values, and we should be respectful of social and cultural differences. But we can hope to influence the societies in which we work by showing through our own example how things are done at MIT. Our core values include: advancing the frontiers of knowledge; encouragement of discovery, intellectual risk-taking, and creative problem-solving; honesty and integrity in all professional and personal dealings; respect for others; a commitment to diversity; fairness in the treatment of all individuals and groups; an open, respectful approach to discourse; reliance on facts and reason-based objective inquiry; freedom of expression, communication, and movement of people; and a commitment to excellence in all that we do.
4. New international ventures will be most successful when they are led by faculty members whose academic interests are strongly aligned with project objectives. A second key requirement for success is to pair faculty leaders with strong and experienced administrators who can provide a singular focus on managing the demanding operational details typical of these activities.
5. MIT's international collaborations should be approached as true partnerships in learning, with the expectation that each partner has much to learn from the other, no matter how great the asymmetry in academic strength and reputation.
6. The longer and larger a proposed international engagement, the more careful we should be about committing to it. Large international engagements should be re-assessed periodically with respect to their potential to continue delivering significant mutual benefits for MIT and its international partners.
7. Rigorous risk management is essential in the international domain, but this is not the same as risk avoidance or risk elimination. A risk-averse approach is incompatible with the kind of institution MIT is and seeks to remain. When faculty members are engaged in significant research, or when important education is taking place, the role of the MIT administration is to work within a risk-informed framework to find ways to reduce associated risks to acceptable levels. The safety and security of students and staff must be of the highest priority.

8. International engagements are often expensive, but the availability of funding cannot be the sole determinant of where MIT works in the world. Other key considerations include the opportunity to collaborate with excellent partners, from whom MIT faculty and students can learn and with whom they can jointly maximize their impact, and also the opportunity to work in locations where the problems are most challenging, and where we can most effectively pursue our mission of working for the betterment of humankind. Our portfolio of international engagements should be periodically assessed with respect to the balance among these criteria.

This plan also considers whether MIT can pursue its global goals and aspirations successfully in the present environment, when doubts about the benefits of globalization are spreading; when political and religious intolerance seem to be on the rise; when governments, including our own, are pursuing more overtly nationalist agendas; and when the future of the American-led international economic and political order is in question.

These developments may pose significant new risks to MIT. But working across borders, collaborating with international partners, and tackling some of the world's most difficult problems are fundamental to MIT's institutional values, and we must remain steadfast in our commitment to international engagement. This plan proposes several mitigating measures to help protect MIT against new risks in the international arena.

Learning about the world, helping to solve the world's greatest problems, and working with international collaborators who share our curiosity and commitment to rigorous scientific inquiry are core values for MIT.

INTRODUCTION

This strategic plan was requested by President Rafael Reif and Provost Marty Schmidt. They asked what can be done to ensure that MIT's future activities in the international arena will have the greatest benefit for the Institute's mission. Thus the central questions for this plan: How can MIT's international activities best contribute to advancing the frontiers of knowledge in science, technology, and other areas of scholarship? How can these activities help to bring forefront knowledge to bear on solving the world's most challenging problems? And how can they contribute to educating future leaders who are prepared to work wisely, creatively, and effectively for the betterment of humankind?

Individual faculty members initiate and implement most of MIT's international activities. The role of the MIT administration is to encourage and support these activities and to safeguard faculty members' freedom to pursue them. But sometimes MIT also seeks to act internationally on a larger scale, in order to increase its impact. This is true of some major international research initiatives—for example, on climate, energy, clean water, public health, and urbanization. It is also true of MIT's large institution-building projects, such as those in Singapore, Russia, and Abu Dhabi. In the past, MIT could be reactive, responding to major international opportunities as they arose, without systematically comparing alternative courses of action and without a framework for setting priorities. But today these activities claim a significant share of the Institute's scarcest and most valuable resource—the time and attention of the faculty. MIT cannot do everything it might want to do, and MIT cannot be everywhere in the world. Priorities are therefore needed, and these priorities must be articulated in a way that is understood by faculty and by current and potential collaborators.

This is not the first time that MIT has sought to assess its international engagements. In 1991 a faculty committee chaired by Professor Eugene Skolnikoff concluded that MIT's primary obligation to serve the national interest would be best met by maintaining the Institute's status as a premier institution focused on science and technology, and that engaging fully in international activities was essential to achieving that objective. Subsequent faculty committees have elaborated on why international engagement is so important to MIT (see Appendix 4). For example:

- “An MIT education should prepare students to become productive members of a world where knowledge and commerce are no longer constrained by national borders . . . As individuals who have been educated to understand and communicate within other cultures, MIT graduates will have the confidence and skills to become capable and responsible leaders in the global community.” (GEOMIT 2007)
- “Our faculty and students have research and educational interests that often naturally lead to international activities and experiences, especially as communication across national boundaries expands, and as research and teaching interests overseas increasingly advance to intellectual frontiers and complement our own interests.” (IAC 2009)

- “MIT is widely viewed as a high-value partner by foreign governments, corporations and universities that increasingly seek to initiate collaborations and share resources with the Institute.” (IAC 2009)
- “Strategic advances in global education and research are essential to sustaining the Institute as the world’s preeminent educational and research institution for scientific discovery and application of knowledge.” (MIT Global Council 2009)

These observations remain no less true today than when they were first made. So why is another strategy review needed now? There are two main reasons.

First, over the last quarter century—and especially over the past decade or so—MIT’s international activities have expanded very rapidly, and they now account for a sizeable fraction of everything the Institute does. The number and variety of potential new opportunities continues to grow, and it is more important than ever for the MIT faculty and administration to think carefully about strategic priorities and to communicate these priorities effectively.

The second reason why a strategic review is needed now is that the environment for international engagement is in flux, and many longstanding assumptions must be reconsidered. Two trends at MIT—the increasingly international composition of our campus community and our growing presence around the world—have closely tracked the course of economic globalization. The same dynamics that have shaped the development of the global economy have been central to “internationalizing” MIT: growing cross-border economic, social, and cultural connections; greater individual and corporate mobility; increased trade and capital flows; and instantaneous, globe-spanning transmission of information. As the middle class has expanded in many countries, global demand for high-quality educational opportunities at top-ranked universities like MIT has grown rapidly. And as new centers of excellence in education, research, and innovation have emerged around the world it has become more important than ever to engage with international partners and to collaborate with the best of them. MIT has thrived in the rules-based, increasingly open, and increasingly connected global economy. But today the ideas, values, and policies that have driven globalization are under greater stress than at any time in the last several decades. At home, the outcome of the recent presidential election has cast doubt on the strength of the U.S. government’s commitment to sustaining the liberal international order from which so many have benefited in the past, including America’s great research universities. Elsewhere, nationalist sentiments and authoritarian governments are on the rise in important parts of the world. At MIT, core commitments to open intellectual exchange, to the free flow of ideas and people, and to international collaboration in scholarship and problem-solving will remain undiminished. But these unfolding economic and political developments presage a more adverse international environment than the one MIT students and faculty have thrived in and grown accustomed to in recent decades. That prospect requires a careful strategic review and a thoughtful response.¹

¹ While the focus here is on the international environment, political developments at home may be at least as challenging for MIT. Skepticism towards science and the scientific method; fears of technological change and its impact on work, employment, and wages; suspicion of ‘elites’ and of experts; greater prejudice towards immigrants; debased forms of social communication, enabled and encouraged by social media—all of these developments, as their influence spreads, will make for a less sympathetic environment within which research universities must pursue their missions.

This plan presents a framework for thinking about MIT's strategic priorities in the international arena. It introduces a set of principles to guide the Institute's future international engagements and recommends several specific initiatives and actions designed to strengthen MIT's portfolio of international activities.

The processes we use to decide whether and how to engage with the world are an important focus of the plan. Of course, this engagement is occurring constantly: whenever MIT admits an international student, whenever a faculty member travels overseas to deliver a lecture or collaborate with a colleague, whenever a student takes up an international internship—MIT is engaged with the world. From time to time, too, larger-scale international opportunities arise. The processes used to consider and act on all these opportunities—big and small—shape MIT's international strategy. No less than the strategy itself, it is the quality of these processes that is the focus of this plan.

The value of the plan must ultimately be judged by the outcome of the decisions and actions it generates. But in the short run the strategic framework presented here can be provisionally assessed with respect to several general criteria or qualities that apply to almost every successful organizational strategy. Specifically, the framework must be:

- **Relevant.** The framework must speak to what MIT wants to do as an institution, what it is actually doing, and how well it is doing it.
- **Principled.** The framework must reflect the values that are important to MIT. These values should govern every MIT activity, whether it involves an individual faculty project or a large-scale initiative, and whether it is carried out in Cambridge or anywhere else in the world.
- **Future-oriented.** The framework must anticipate likely changes, both in the external environment and in the activities and priorities of MIT itself.
- **Based on a credible theory of action.** The framework must reflect a clear understanding of how the actions of MIT educators and researchers produce consequences, and how these actions and consequences are connected to MIT's mission and goals.
- **Readily understood** by faculty, students, partners, and everyone else with a stake in MIT's success.
- **Targeted at well-defined objectives**, so that it is possible to judge whether MIT is on the right track and how fast it is progressing toward its goals.

To ensure the relevance of this plan, I began by asking MIT faculty colleagues what topics they thought it should address. Many answered with questions of their own. Here are some of them:

- What is MIT trying to achieve in the world? What impacts do we seek? Where is our impact likely to be greatest?
- How can we ensure that our international efforts don't deplete but rather sustain and strengthen our Cambridge campus, the source of our excellence, creativity, and energy?

- Where should we be in the world? Should we focus our efforts on particular countries or regions? If so, which ones?
- What level of international activity should we plan for 5, 10, and 20 years from now? And how should the focus of these activities be distributed between education, research, and service?
- In education, what balance should we seek between serving (a) our own students, (b) MIT-caliber students around the world who are unable to attend the Institute as regular students, and (c) other kinds of international students (including pre-K-12 students and lifetime learners) that our faculty may also be interested in serving? How will our digital learning platforms affect this choice?
- What balance should we seek in the durations of our international engagements, from the very short to the very long? Under what circumstances might we consider a permanent physical presence outside the United States?
- How should we operate in parts of the world in which our core values aren't fully shared? Should we take actions to promote those values, even if such actions aren't necessary to the conduct of our primary activities? Under what circumstances would we choose not to engage at all?
- Beyond ensuring compliance with the law, what obligations do we have as an American institution to concern ourselves with the interests and policies of the U.S. government as we consider and execute our own international engagements?
- When, if ever, is it acceptable for us to take reputational risk?
- Which partners should we seek out for our international activities? When is it best to partner with peer universities? With 'fast risers'? With governments? With companies?
- What determines when an international engagement becomes 'major'? When does it require consideration of institutional impact beyond what would normally be required for MIT's sponsored research and educational activities? When does it require an institutional imprimatur?

Some of these questions are answered in this plan. For those that aren't addressed directly, the plan presents a set of principles and processes that will allow thoughtful answers to be developed as new scenarios arise and new opportunities emerge.

The plan is organized as follows. The next section describes MIT's current international activities in research, education, and innovation. The following section considers how these activities are likely to evolve in the coming years. Following that, the main goals that motivate these activities are enumerated, as well as the key values and principles that should guide them. The next section presents several recommendations designed to help build a stronger platform for successful international

engagement at MIT.² The final section presents some ideas on how MIT might continue to thrive in the international arena even as the general environment may be becoming less hospitable and perhaps even hostile towards some of our core values and goals.

HOW MIT ENGAGES WITH THE WORLD TODAY

The MIT campus, open to the world, is becoming increasingly international

MIT's openness to the world dates back to its earliest years. The first international student, Ichiro Hongma, arrived from Japan just nine years after MIT's founding in 1861.³ Today our campus community of more than 20,000 includes 6,500 faculty, academic staff and students from about 150 foreign countries. Thousands more foreign nationals come to MIT for shorter visits each year.⁴ More than 40% of our graduate students and 65% of post-doctoral scholars hail from other countries (these figures do not include foreign-born permanent residents); and 43% of the faculty were born outside the U.S.

The international character of the campus has deepened over the last two decades. The share of international graduate students at MIT increased from 33% in 1998 to 43% today. International students have also accounted for most of the growth in the graduate student population: Between 1998 and 2016, graduate student enrollment rose by 25%, and international students accounted for 75% of that increase. The population of post-doctoral scholars has risen more rapidly, increasing by 78% between 2006 and 2016, and international post-docs accounted for 80% of that growth. These trends have occurred throughout the Institute. All five Schools have experienced an increase in the proportion of international graduate students in recent years, as have most departments.⁵

International sponsorship of research and other on-campus activities has also grown rapidly. Between 2006 and 2016, the dollar volume of international sponsorship grew three-fold, and by 2016 accounted for 18% of all sponsored activity at MIT, up from 8% a decade earlier.

² More detailed implementation plans have been developed for many of these recommendations; this report merely highlights their key points.

³ See: Alexander, Philip N. 2011. *A Widening Sphere: Evolving Cultures at MIT*. Cambridge, MA: MIT Press. p. 68.

⁴ During 2015, a thousand international students spent time on the MIT campus as special students, visiting students, or exchange students.

⁵ Over the last decade, the proportion of international graduate students increased from 41% to 43% in the School of Engineering, from 34% to 43% in the School of Architecture and Planning, from 42% to 45% in SHASS, from 37% to 47% in MIT Sloan, and from 31% to 35% in the School of Science.

International firms' growing interest in MIT has contributed to these trends. Firms headquartered outside the U.S. now account for over half of corporate R&D funding on campus. They also comprise 74% of the corporate membership of the Industrial Liaison Program (ILP), up from 45% in the mid-1990s.

In substantial part, the increasingly international character of the MIT campus has been a 'bottom up' phenomenon—the result of choices and actions by individual faculty and students, external partners, and, in the case of graduate students, individual departments via their admissions policies. The administration has supported these developments, and has led the way on other initiatives, including launching several large International institution-building programs (discussed below). In one area, however—international undergraduate admissions—MIT policies have bucked the general trend: The share of non-U.S. students in MIT's total undergraduate enrollment has remained roughly constant, never exceeding 10%–11% over many years. The de facto cap on international undergraduate admissions is discussed in more detail in the Recommendations section.

The MIT community is becoming increasingly active around the world

As the MIT campus has become more international, the MIT community has also been growing more active around the world. Today MIT faculty and students are engaged in research, education, and service activities in more than 75 countries, and the scale and scope of these activities are increasing.

Education. Half of the graduating seniors in 2016 reported having at least one international educational experience, up from 23% a decade earlier. For some undergraduates this involves traditional study-abroad programs at other universities. For many more it means practical internships and experiential learning opportunities. Many graduate students also participate in project-based learning in other countries.

The MIT International Science and Technology Initiative (MISTI) has played an increasingly important role in providing international education opportunities for MIT students. In 2016, MISTI arranged almost 1,000 student internships and other placements (roughly 70% of them for undergraduates) in 30 countries—a four-fold increase over the last 10 years. Other hands-on educational offerings, often with a strong service component, are provided by D-Lab, IROP, the Priscilla King Gray Public Service Center, the Tata Center for Technology and Design, the Legatum Center, the Trust Center for Entrepreneurship, and the Sloan School's Action Learning programs for its Master's students.

Relatively few MIT undergraduates opt to participate in traditional study-abroad programs, in which they enroll at other universities for one or two semesters. This is because the intensity and cumulative nature of the MIT undergraduate curriculum is a significant barrier to overcome, and because the opportunities to engage in research at MIT itself are so great. Most MIT students opt for shorter stays abroad, in January or over the summer. (The largest study-abroad program, the Cambridge-MIT Exchange, will conclude at the end of the 2016–2017 academic year because of funding constraints in the U.K.)

Online Education. MIT's digital education platforms are creating unprecedented opportunities to connect with learners around the world, and they have already helped expand the faculty's educational reach. Since its launch in 2003, MIT's pioneering OpenCourseWare website has received nearly 200 million visits from every country in the world, and since the launch of the edX platform in 2012, 3.5 million learners—75% of them from outside the U.S.—have signed up for MITx courses. In addition, fee-bearing digital courses taught by MIT faculty and targeted to professionals have enrolled more than 15,000 learners from more than 110 countries since 2013.

Meanwhile, MIT continues to experiment with new delivery mechanisms and credentials, pioneering a new MicroMasters qualification that is open to anyone in the world, regardless of academic background. The courses are delivered online and are freely available; students who do well in them can earn a MicroMasters credential at low cost.⁶ MIT recently agreed to collaborate with 14 other U.S. and international partners in the edX consortium to offer an expanded slate of MicroMasters programs. As of this writing, the consortium is offering 22 such programs and another 17 are in the pipeline.

Research. International sponsorship of MIT research has been growing rapidly, as noted above. Although much of this work is carried out at MIT, it often entails reciprocal visits by MIT faculty and students to work with international collaborators. Many faculty in management, the humanities, and the social sciences carry out field research around the world. Faculty in the natural sciences conduct research at leading international experimental facilities such as the DESY Laboratory in Germany, the Large Hadron Collider at CERN in Switzerland, plasma physics laboratories in Germany, China, and France, neutrino detectors in Japan, and a network of climate observatories in Rwanda and elsewhere. As other countries increase their R&D investments (often more rapidly than the U.S.), MIT faculty will increasingly travel abroad to access the most advanced capabilities in their fields.

Many MIT programs provide opportunities for faculty and students to carry out research internationally. For example, the SMART Center in Singapore, MIT's largest international research endeavor, was established in 2007. More than 200 MIT faculty, staff, post-docs, and students are currently involved at SMART, some of them in residence for several months. Other internationally-oriented activity is supported by the Tata Center, which funds faculty and students to carry out collaborative research on development challenges in India and elsewhere. Faculty affiliated with the Jameel Poverty Action Lab, based in the MIT Economics Department, are conducting randomized evaluations in 30 countries to test and improve the effectiveness of poverty-reducing programs. MIT's Global Seed Funds, administered by MISTI, provide small seed grants to encourage new research collaborations between MIT faculty and their counterparts in about 30 countries. The ILP organizes conferences around the world to showcase MIT research and promote connections between researchers and potential industrial sponsors. Finally, MIT-wide faculty groups periodically convene to consider research and educational opportunities in different regions of the world. A good example is the Africa Advisory Committee, which is currently exploring new possibilities for MIT engagement in Africa.

⁶ Two MIT MicroMasters programs have recently been launched. The five online courses offered under the first program, in supply chain management, have already attracted 174,000 learners from 192 countries. A small percentage of verified students who do exceptionally well in these courses and a final exam may be eligible to continue their education on the MIT campus, applying credit earned in the MicroMasters program towards a regular master's degree. The first such students will arrive on the MIT campus in 2018.

Institution-building. MIT is also heavily involved in major international institution-building projects. This is not a new role for us, although the scale of this activity has increased in recent years. In previous decades MIT helped establish new higher education institutions in Brazil (ITA), India (IIT Kanpur, IIM Calcutta, Birla Institute for Technology and Science), and Iran (Arya-Mehr University of Technology). Today our active institution-building projects include the Singapore University of Technology and Design (SUTD), the Singapore-MIT Alliance for Research and Technology (SMART), the Masdar Institute of Science and Technology in Abu Dhabi, and the Skolkovo Institute of Science and Technology in Moscow. Another major program, to help upgrade engineering research and educational institutions in Portugal, is now in its tenth year. These programs have each involved scores of faculty members (see Appendix 2).

Other large international capacity-building projects have been coordinated at the school or department level, such as the Sloan School's current engagement with the Asia School of Business in Malaysia and its programs to upgrade management education at several Chinese universities, as well as the Mechanical Engineering Department's collaboration with King Fahd University of Petroleum and Minerals in Saudi Arabia and the China activities of the Sam Tak Lee Real Estate Entrepreneurship Lab in the School of Architecture and Planning.

Alumni. Some 20,000 MIT alumni reside in 160 countries around the world. The Alumni Association maintains active alumni clubs and MIT Technology Review manages MIT Enterprise Forum chapters in more than 40 countries. These local groups organize continuing education programs, online services, volunteer opportunities, and events to help alumni connect with MIT and with fellow MIT graduates.

A majority of MIT faculty members take part in international education, research, and service activities

No single metric fully captures the involvement of MIT faculty in international activities. A measure of international research collaborations is the share of all MIT publications with international co-authors. This share rose from 25% in 2001 to 50% in 2016.⁷ During FY15, 391 faculty members, or almost 40% of the MIT faculty, were supervising foreign-sponsored projects processed through the Office of Sponsored Programs. Faculty involvement in MIT's large institution-building programs has also been extensive. Over the past decade, more than 400 faculty have participated in at least one of the five big institution-building programs mentioned above (SUTD, SMART, Masdar, Skoltech, MIT Portugal), and many have participated in two or more (see Appendix 2).

Faculty involvement in the large institution-building programs has been heavily weighted towards the School of Engineering. Faculty from other schools are involved internationally in different ways—for example, the international teaching activities of Sloan School faculty, the international field research conducted by many members of the SHASS faculty, and the participation of School of Science faculty in experiments at international research facilities. Though no comprehensive

⁷ From www.scival.com/benchmarking/analyse, visited January 28, 2017. For the AAU group of research universities as a whole, the corresponding shares were 19.4% and 37.1% respectively.

database of these engagements exists, it seems likely that at least half the MIT faculty has participated in international education, research, or service activities in recent years.

Further growth of these activities seems likely. MIT students are seeking more high-quality opportunities to learn about and engage with the world. MIT professors are aware that research funding is growing in many countries and are finding more opportunities to collaborate with international colleagues. And MIT itself, at the top of the international university rankings and widely recognized for its strength in combining innovation with research and education, is much in demand as a partner by governments and universities around the world.⁸

First-of-a-kind impacts

MIT's international engagements provide additional opportunities for faculty and students to have impact in their fields. It is a career expectation that MIT faculty will break new ground in research, but many faculty are also strongly motivated to work with their students to achieve other first-of-a-kind impacts, whether in education, technology applications and design, or the development of new public policies or institutional capabilities. Working internationally greatly expands the potential frontier of such impacts, and MIT's international engagements have frequently delivered on this potential.

The trademarks of “*global MIT*”

Many of MIT's international activities are similar to those undertaken by peer universities. But three kinds of activity differentiate MIT to some degree, and also seem particularly important to the MIT community.

MIT's “global classroom”: MIT is building out what is effectively a *global classroom* to help its undergraduate and graduate students learn about the world. Unlike a conventional classroom, MIT's global classroom enables students to learn by doing—just as they do on the MIT campus. This means providing international experiences that emphasize hands-on learning and practical problem solving. These experiences are often preceded by country-specific cultural and historical education and language training. MIT may be unique in the extent to which international experiential learning has been integrated into undergraduate education programs. (As noted previously, MIT is simultaneously developing a different kind of global classroom: a low-cost digital or blended classroom for non-MIT learners all over the world who aspire to MIT-quality education.)

MIT as a builder of institutions and innovation ecosystems: Governments, universities, and philanthropists around the world are asking MIT to help them advance their human and economic development objectives. MIT is being asked to share its policies and practices for education, research, innovation, and entrepreneurship, and to help build entrepreneurial, impact-driven universities modeled on MIT itself. In some cases we are also helping to build innovation ecosystems beyond the boundaries of the universities we are working with.

⁸ For the past four years MIT has been ranked first in the QS World University Rankings and has also been highly ranked in other ranking schemes.

MIT as a global problem-solver: The Institute’s entrepreneurial, outward-looking faculty and students go wherever in the world important problems are to be found, and where their knowledge, insights, methods, and rigor can help deliver solutions. The institutional culture of MIT encourages faculty to think about research contributions in terms of their impact on practice as well as their intellectual quality.

Administrative challenges

Compared with MIT’s U.S.-sponsored programs, international engagements pose different and often greater administrative challenges in both the development and operational phases. The majority of MIT’s domestically-sponsored activities consist of research and educational projects funded by agencies of the federal government. Well-defined rules and procedures have been developed to manage these activities. But there is no standard structure for sponsored agreements in the international arena, and as these activities continue to expand, the administrative challenges are growing. In just the last three years MIT has entered into approximately 300 separate agreements involving 40 countries, and many of these agreements have had unique provisions. Each sponsoring country has its own legal, tax, employment, and currency requirements, administrative style, and cultural expectations. Adding to the complexity are U.S. export control regulations, safety and security considerations, and the need to protect against misuse of the MIT name. In the operational phase of these engagements, faculty members often need more intensive administrative support to manage the added complexity than is typical of domestic projects.

An additional consideration is to ensure the careful self-assessment that is a feature of MIT’s institutional culture. The MIT Portugal Program has provided one example of good practice in self-assessment of international institution-building. Leaders of the Portugal Program invited researchers to ‘embed’ in the program with the specific purpose of evaluating its subsequent performance.⁹ Other large institution-building programs have yet to receive rigorous internal assessments, and until now there has been no sustained effort to promote the sharing of experiences and learning across these programs.

In recent years MIT has taken a number of steps to address these challenges. The International Advisory Committee was formed in 2007 to provide the administration with advice from faculty on the full range of MIT’s international engagements. The International Coordinating Committee was created subsequently to strengthen the support for international activities provided by MIT’s administrative offices and functions. Additional opportunities to upgrade administrative support are discussed in the Recommendations section of this report.

⁹ These evaluations have appeared recently in a series of peer-reviewed publications (see, for example, S. M. Pfothenauer et al, “Architecting Complex International Science, Technology, and Innovation Partnerships”, *Technological Forecasting and Social Change*, vol. 104 (2016), pp.38-56; M. Hird and S. M. Pfothenauer, “How Complex International Partnerships Affect Domestic Research Clusters”, *Research Policy*, vol. 46 (2017), pp. 557-572).

Faculty perspectives on MIT's international activities are generally positive, though with some reservations

Faculty attitudes towards MIT's international activities were explored during a series of informal discussions, roundtables, and presentations (see Appendix 1). In addition, a task force of younger faculty was formed to explore these issues. The Faculty Task Force on International Engagement convened faculty forums in all five schools to gain additional input.¹⁰ In general, faculty members seemed to agree strongly on the central importance of: (1) enabling MIT students to learn about the world; (2) attracting the most talented students and faculty from around the world to MIT; and (3) deploying MIT's problem-solving capabilities to address major global challenges. (Some faculty members also commented that MIT should be paying more attention to economic and social problems at home.)

The most commonly expressed concerns focused on MIT's large international institution-building programs. These programs were perceived by some to have a negative impact on education at MIT as a result of faculty spending significant time away from campus. This was mentioned by some faculty members who had not participated in these programs as well as by some who had. (Other participating faculty members argued that their contributions to educating MIT students had not been adversely affected.) Perhaps not surprisingly, heads of departments whose faculty had participated most heavily in these programs were among the most vocal on this score. However, some department heads also saw opportunities for their departments to become more active in international institution-building activities, complementing or even substituting for Institute-level efforts.

A number of comments concerned faculty residence requirements. The two Singapore programs have such requirements; in exchange, MIT has received compensating resources, including funding to create new faculty slots. But some expressed concern that the relief wasn't adequate, or that it wasn't deployed in proportion to the actual burden, or that such resources couldn't effectively compensate for the loss of faculty time anyway. The other large programs do not have residence requirements, and therefore impose fewer burdens on faculty in terms of spending time away. A recurring view was that MIT's online education platforms might help reduce these burdens further in the future, although it was also noted that international partners place high value on the physical presence of MIT faculty, and that online delivery of courses could only be a partial substitute.

Other concerns focused on what some faculty members suggested was a tendency for MIT to 'follow the money' in selecting its international partnerships.

Some SHASS and School of Science faculty commented that their Schools had been less involved in the large institution-building projects, and that for those faculty who did participate the experience was not always as intellectually fulfilling as they had hoped. On the other hand, there was broad agreement that the diverse research styles and approaches to international engagement pursued by faculty in the different Schools is of great value to MIT, not least because it enriches the international opportunities available to our students. More generally, there was strong agreement that the intellectual diversity of our five Schools and their interdependent, mutually reinforcing contributions are core sources of MIT's strength. This is an important message for potential international partners seeking to emulate the Institute's impact in research and entrepreneurship.

¹⁰ A short report prepared by the Faculty Task Force on International Engagement can be requested at request-globalstrategy@mit.edu.

HOW MIT'S ENGAGEMENT WITH THE WORLD WILL CHANGE

A successful international strategy must also anticipate change, both at MIT itself and in the external environment.

The impact-driven research university. While many factors drive change at MIT, the idea that scientific discovery and intellectual excellence should be harnessed to achieve practical benefits in the world pervades the MIT community and is animating some of the most important new developments on campus today.

- **In research**, this idea is reflected in the increasing tendency to organize interdisciplinary collaborations around complex societal problems—energy, water, food, transportation, security, health, environmental quality, economic development, and so on. Of course, research at MIT is rooted in the disciplines and continues to be motivated by the goal of making important discoveries at the frontiers of fundamental science. But problem-oriented research has become more visible on our campus, and is now being augmented by a growing focus on even-more-complex ‘megaproblems’ such as climate change and urbanization, each of which encompasses several major societal problems. Such problems are, for the most part, inherently international, and as they command increased attention, interest in building international research collaborations will grow, as will the interest of potential partners in working with MIT. The SMART research collaborations in Singapore are a good example, with large teams of MIT faculty and Singaporean colleagues working on problems that are important to the Singapore government, such as urban mobility, environmental quality, and infectious disease prevention.
- **In education**, faculty members are deploying digital technologies not only to enhance the education of MIT students but also to reach learners around the world. A major motivation for these new initiatives is the opportunity to increase the scale of MIT’s educational impact and engage with different kinds of learners, including those for whom a conventional education on the MIT campus would be prohibitively costly, as well as socially disadvantaged groups such as refugee populations, and professionally active ‘lifelong’ learners. MIT researchers are also studying the fundamental processes that underlie learning at the individual level, from pre-kindergarten to adulthood, and are working with partners in several countries to apply the results of their work.

- **In innovation**, MIT's focus on entrepreneurship-based innovation pathways is helping to accelerate the conversion of discoveries and inventions into practical technologies, products and services, and this in turn is adding new dimensions to the Institute's interactions with the world. For example:
 - The opportunity to participate in the local innovation ecosystem is attracting large international firms to MIT's Cambridge neighborhood, including Phillips, Novartis, Samsung, Saudi Aramco, Shell, Schlumberger, Toyota, GlaxoSmithKline, and others.
 - MIT entrepreneurship 'bootcamps', intense short courses taught in conjunction with online entrepreneurship education programs, are bringing new kinds of students to campus from all over the world, and are also being offered in other locations where MIT is active, including Singapore and Abu Dhabi.
 - MIT's Hong Kong Innovation Node is designed to enrich the educational experiences of MIT (and Hong Kong) students in important areas of innovation practice including entrepreneurship, making, rapid prototyping, and scale-up. The Node, part of the broader effort to build out a global classroom for MIT students, will provide a gateway for students to access the unique manufacturing and prototyping capabilities of Shenzhen and the Pearl River Delta region.

As MIT continues to elaborate and extend the model of the impact-driven research university, new opportunities for international engagement will undoubtedly arise.

Changes in the World. America's relative economic weight in the world has been declining for decades, and as other countries grow more prosperous, a growing share of global R&D is originating outside the U.S. While domestic funding for R&D has increased by 11% since 2008, R&D funding in China has been growing at an average *annual* rate of nearly 17%, and by more than 9% per year in South Korea.¹¹ The U.S. is still the world leader in research, accounting for 29% of total R&D spending by the G20 countries in 2013 (the most recent year for which data are available), but China, which two decades ago barely registered in the international statistics, accounted for the next largest share of R&D investment at 22% of the total.¹² Indeed, by this measure, China will soon overtake the U.S. (Researchers in China already publish almost as many articles in peer-reviewed scientific and engineering journals as their U.S. counterparts.¹³) As MIT faculty and students look for funding to tackle some of the world's biggest scientific and technological challenges they are increasingly likely to find it in foreign capitals. Similarly, as economic growth in the developing world continues to outpace growth in the U.S., more of the world's most dynamic companies—typically the most attractive industrial partners for MIT—will be based in the emerging economies.¹⁴

11 In the U.S., gross expenditures on R&D grew from \$415 billion in 2008 to \$463 billion in 2015 (in constant dollars). Over the same period gross R&D spending rose from \$149 billion to \$377 billion in China (using PPP exchange rates) (Source: OECD (2017), gross domestic spending on R&D (indicator). doi: 10.1787/d8b068b4-en (accessed on 05 March 2017)).

12 The G20 countries account for about 85% of gross world product and most of the world's R&D expenditures.

13 National Science Board, *Science and Engineering Indicators - 2016*, pp. 5-8.

14 According to a recent projection by McKinsey, 45% of the world's largest companies will be based in emerging economies by 2025, compared with just 5% at the beginning of the century. The list of the world's 500 largest companies published annually by Fortune magazine now includes 156 emerging-market firms, compared with just 18 in 1995. (*Economist*, 17 September 2016.)

GOALS AND PRINCIPLES FOR GLOBAL ENGAGEMENT

The many international activities described in the previous sections are motivated by **seven interlinked goals**:

- preparing our students for productive, rewarding, and consequential lives and careers by providing meaningful opportunities for them to learn about the world;
- assisting our faculty and students to carry out their research in the world and about the world;
- enabling our faculty and students to collaborate with the world's most outstanding researchers and gain access to the world's most advanced scientific facilities and infrastructure;
- supporting faculty efforts to help solve the world's most important and challenging problems;
- attracting the world's most talented students, faculty and staff to the MIT campus;
- finding new mechanisms to accelerate and amplify the global impact of MIT's educational and research activities; and
- strengthening the MIT campus by diversifying and expanding international sources of funding.

No single international engagement can be expected to advance all of these goals, but MIT's overall portfolio of international activities should yield progress on all fronts.

As important as the goals themselves is how we go about achieving them. Discussions with MIT faculty, students, and administrators point to the following **core principles** as guides for future international engagement:

1. MIT's global reach and global aspirations

If MIT is to remain at the forefront of higher education, research, and innovation in the 21st century, our geographic reach and aspirations must be global. Working internationally and with international colleagues, and achieving international impact, are essential for achieving MIT's mission of service to the nation and the world. Some may question the wisdom of this principle during a period of heightened global uncertainty in fields ranging from international trade and finance to military security and migration. But working across borders, collaborating with international partners, and tackling some of the world's most difficult problems are so fundamental to MIT's institutional values and so deeply embedded in MIT's approach to education and research that it would be pro

foundly self-defeating to retreat from them now. Indeed, it seems especially important to reaffirm this principle of global engagement today, when barriers to the kind of progress we envision and to which we seek to contribute may be building around the world.

2. MIT's American identity

MIT was founded with the purpose of improving industry in Massachusetts. Its graduates have since launched many new American industries and have helped to create millions of American jobs. MIT operates the Lincoln Laboratory for the federal government, for the purpose of developing new technologies for national security. Even as the Institute's international engagements have grown, it continues to depend on the American taxpayer for much of its research funding and the financial support implicit in its tax-exempt status. No less important, MIT is the beneficiary of American laws, regulations, and other public goods—including safety and security—that the U.S. government provides. In short, MIT is an American institution, with all the benefits, privileges, responsibilities, and obligations that entails. When members of the MIT community operate in the international arena they must be in compliance with relevant federal (and state) laws and regulations, and when the MIT administration considers new international engagements it must be cognizant of the national interest. As an institution that is both in the world and worldly, MIT may on occasion encounter situations where competing national interests are at stake. When such situations arise, there should be full confidence, both at home and abroad, that MIT will never put any other country's interests ahead of those of the United States.

3. The universality of MIT's core values

Wherever MIT faculty, staff, and students are working in the world, they should be guided by the same core values that inform life and work on the MIT campus. In this sense, our international activities must be an integral part of what we do, not something separate. These core values include:

- dedication to advancing the frontiers of what is known;
- encouragement of discovery, intellectual risk-taking, and creative problem-solving;
- honesty and integrity in all academic and personal dealings;
- respect for others;
- a commitment to diversity;
- fairness in the treatment of all individuals and groups;
- an open, respectful approach to discourse;
- reliance on fact- and reason-based objective inquiry;
- freedom of expression, communication, publication, and movement of people; and
- a commitment to excellence in all that we do.¹⁵

¹⁵ Articulations of MIT's core values include those by the Institute-wide Task Force on the Future of MIT Education in 2014 (future.mit.edu/charts/values-and-principles), a recent letter to the MIT community from President Rafael Reif (news.mit.edu/2016/letter-mit-community-new-administration-washington-1110), and a recent statement by an ad hoc group of MIT faculty (mitvalues.org/).

If MIT's name is used in association with international activities, we must be confident that these values will guide the conduct of those activities. So, for example, if MIT is to establish a presence in societies whose cultural norms or policies appear biased against women, or against particular racial or ethnic groups, or against groups based on sexual or gender preference, we should do so only if our faculty and administration are confident that members of these groups will experience no such bias within the frame of MIT's operations—whether those individuals are part of the MIT community or are non-MIT collaborators working under MIT's auspices. We obviously cannot require other societies to conform to our values, and we should be respectful of social and cultural differences. But by 'exporting' our values in this limited sense we can hope to influence the societies in which we work, through showing by our own example how things are done at MIT.

4. Faculty leadership and administrative excellence

The best ideas for advancing research, education, and innovation come from faculty and students. Large new international ventures will be most successful when they are led by faculty members whose academic interests are strongly aligned with project objectives. Major international ventures don't succeed because the administration wants them to; they succeed when participating faculty members are committed to their success. Even when MIT's central administration negotiates a new international venture, the initiative must be led by a committed faculty member once it is launched. If strong faculty interest in a particular international initiative is lacking, MIT should be very hesitant to proceed. In the operational phase, a second key requirement for success is to pair faculty leaders with talented administrators who can provide a singular focus on managing the demanding operational details that are a signature of many international programs.

5. Partnerships in learning

Collaboration is the *sine qua non* of learning, discovery, invention, and innovation. The single most important reason for MIT students and faculty to travel abroad is the opportunity to work with others who see the world in different ways and who are eager to contribute their ideas in joint discovery and problem-solving. For students, such educational experiences can be transformative. For faculty, international research collaborations can open up new intellectual frontiers and bring important new problems to the fore. Even for capacity-building projects characterized by large asymmetries in academic strength and reputation, international collaborations should be approached as partnerships in learning, and with the expectation that each partner has much to learn from the other.

6. The need to weigh the opportunity costs of international engagements.

The duration of MIT's existing international engagements ranges from very short (a few weeks for a student project or an MITx course) to very long (up to a decade or more for a major institution-building project). We can only conduct a limited number of major international engagements at one time. 'Full-scope' institution-building projects requiring a comprehensive marshaling of Institute-wide capabilities and a long-term presence on the ground can bring major benefits but they can also tie MIT's hands. The benefits may include support for exciting and/or under-funded new research areas; the potential to have a major impact in a problem area of importance to the Institute; the opportunity to build deep regional expertise

that can be leveraged for future projects in that region; the ability to prototype new models of education, research, and innovation that can be brought back to campus; and funding for the MIT endowment and for MIT infrastructure. But as the duration and scale of these projects increase, so too do the associated opportunity costs, and the more careful MIT must be about committing to them. Similarly, large international engagements, such as SUTD and the SMART research center in Singapore, must be re-assessed periodically with respect to the potential they offer for MIT to continue providing significant mutual benefits for MIT and its international partners.

7. Rigorous risk management, not risk avoidance or risk elimination

A risk-averse approach is incompatible with the kind of institution MIT is and seeks to remain. Some of the risks associated with MIT's international activities are different in kind from those associated with other activities MIT undertakes; in addition, these risks tend to attract more attention. All involved must be fully aware of the risks and understand how best to manage them. But as long as the MIT community is active in the international arena a certain level of risk is unavoidable. Risks should be minimized, but MIT should neither seek nor expect to eliminate them. MIT faculty and students are creative and driven, and whether they are working on campus or internationally they seek to do things that haven't been done before. When faculty members are engaged in significant research, or when important education is taking place, the role of the MIT administration is to work within a risk-informed framework to find ways to reduce associated risks to acceptable levels. The safety and security of students, faculty, and staff must be of the highest priority.

8. Balance in MIT's portfolio of institution-scale international engagements

Most of MIT's international activities will continue to consist of small-scale projects at locations determined by the interests of individual faculty members. The distribution of MIT's major engagements requires more planning, however. Wherever these engagements occur, the resources must be found to support MIT's involvement. But the availability of funding cannot be the sole determinant of where MIT works, nor even the primary one. Other key considerations include the opportunity to collaborate with partners who excel in research and/or are strong in innovation, ideally with complementary strengths, from whom MIT faculty and students can learn and with whom they can jointly maximize their impact. Members of the MIT community also want to work in locations where the needs are greatest, where the problems are most interesting and challenging, and where they can most effectively pursue MIT's mission of working for the betterment of humankind. The Institute's portfolio of major international engagements should reflect both of these selection criteria. Implementing this principle may require new funding models, including resource transfers from richer to poorer parts of the world.

RECOMMENDATIONS

This section describes several new international initiatives in support of the goals and consistent with the principles outlined above. The objective of these recommendations is to create a more robust and durable platform to support the international initiatives of individual faculty, while also establishing a principled framework for selecting and undertaking larger-scale activities to increase MIT's impact in the world.

The actions recommended here are designed specifically for MIT, a university centered on scientific and technological progress and focused on achieving practical impact. We welcome parallel efforts by other universities to identify their own new paths to engaging with the world, tailored to their strengths. Together, we should work to strengthen the global community of universities, each of them distinctive but all of them steeped in the values of intellectual excellence, discovery, tolerance, and open-mindedness; all of them harnessing the energy, creativity, and courage of the world's finest young minds; and all of them working together to address humankind's most difficult challenges.

These recommendations for MIT are organized around three broad themes:

- I. Bringing MIT to the world
- II. Bringing the world to MIT
- III. Strengthening governance and operations

I. Bringing MIT to the World

Under the general heading of 'bringing MIT to the world', I recommend new efforts in three areas.

I.A Build new *MIT Partnerships for a Better World*

Many MIT faculty members want to expand their international educational and research collaborations, and many potential international partners seek new collaborations with our faculty. MIT can help our faculty by providing more active and targeted support for building international partnerships. This will also provide new opportunities for students to gain meaningful, MIT-worthy international educational experiences.

The broad objective of *MIT Partnerships for a Better World* is to create new region-specific platforms for cultivating, facilitating, and coordinating faculty and Institute-level collaborations in targeted countries and regions. These new regional platforms will:

- enable MIT to amplify its global impact by better supporting and scaling research by MIT faculty, enhancing collaboration, and identifying new opportunities for collaborative problem-solving in targeted regions;
- provide new ways for international sponsors and donors to support their home-country institutions while also engaging with MIT;
- support research collaborations of individual MIT faculty members with international partners;
- connect MIT more effectively with prominent international alumni and other leaders in targeted countries and regions;
- support MIT's global problem-solving initiatives (in energy, climate, water, food, etc.) by facilitating connections around these major initiatives in targeted countries and regions;
- achieve better coordination between research initiatives and other MIT activities in a given country or region (for example, MISTI internships, D-Lab projects, Sloan Action Learning Labs, EmTech and ILP conferences, Global Teaching Labs, and executive education programs);
- help increase the visibility of MIT's presence in targeted countries and regions; and
- build on and support MISTI's country programs, which are now playing a major role in serving MIT students and faculty, and which merit greater financial stability and a closer connection to the strategic priorities of the Institute.

Building these new regional partnerships will entail:

(1) Establishing **standing faculty/staff working groups**, by region, to provide strategic advice and develop regional engagement plans (the regional working groups may be augmented by outside experts, as needed). These regional working groups will:

- advise on regional challenges, issues, and questions;
- spearhead or support regional development efforts, collaborating with faculty across campus to create opportunities and identify potential partners;
- ensure that the perspectives of the major MIT initiatives are represented;
- catalog and track MIT activity/interests in the region.

(2) Holding a series of **MIT regional summits**, with the first such summit to be held in China in 2018.

These summits will be designed to increase MIT's visibility and provide a focus for efforts to establish new partnerships and develop new resources, and will be held at a rate of roughly one per year. The approach will enable a major focus on a different region each year, with a major MIT conference in that region and associated workshops, roundtables, executive/professional education programs, and other MIT-branded events such as entrepreneurship bootcamps, coupled to Cambridge-based events that are also focused on that region. The predictable multi-year cycle

of summits will give MIT staff time to prepare the ground for the next major push in each region. Output from the regional summits will feed directly into the work of the regional faculty working groups and will help inform their strategic guidance. In addition, the summits will provide a venue for discussing funding opportunities with potential collaborators and sponsors, building the foundation for expanded future relationships.

(3) Expanding **regional seed funds** and building **new funds** to support MIT strategic priorities by region.

MISTI currently administers 22 country-specific (and sometimes university-specific) seed funds, intended to encourage the creation of research collaborations between MIT faculty and counterparts abroad. Foreign governments or universities provide most of the funding. The funds play an effective role in supporting small-scale, short-term interactions, but the scale is not sufficient to support continuation of the most worthwhile activities. There is a need for a larger-scale program with greater strategic coherence, potential for sustainability, and institutional visibility. Such a program would allow MIT to expand into regions and areas where it has not been active, develop stronger collaborations with peer institutions, and explore opportunities for collaboration in education and innovation/entrepreneurship as well as research.

New Regional Priorities: In recent years MIT's international engagements have been concentrated in Europe, the Middle East, and Southeast Asia. Three other regions that have been relatively underrepresented in the MIT international portfolio until now stand out as having high potential for impactful engagement in the future: Africa; Mexico, Brazil, and other parts of Latin America; and China.

Africa. Africa, the world's fastest growing region in recent years, faces a multitude of challenging problems of great interest to many MIT faculty and students, including public health; water and environmental quality; rapid urbanization; the spread of social, digital, and transportation networks; and access to education. To expand the scale and scope of MIT's activities in Africa it will be necessary to find a sustainable funding model. It will also be necessary to identify long-term strategic partners who can compensate for gaps in MIT's own know-how and experience. And, as in other parts of the world, concentrating MIT's efforts in countries with democratic leanings and a strong commitment to education and STEM development will increase the likelihood of success.

Latin America. A major target of opportunity is Mexico, whose economy is so tightly integrated with the U.S. economy—especially in important manufacturing sectors, where the two countries will largely sink or swim together. Previous educational, research, and cultural exchanges and collaborations in Mexico have been highly beneficial to MIT. In Brazil, too, there are important opportunities for collaborative research and education. More broadly, the U.S. has an enormous stake in the prosperity, security, and political development of Latin America, and for MIT a greater scale of involvement in that region may also create opportunities to strengthen connections to the domestic Latino community. Undertaking new academic and industrial part-

nerships in Mexico, Brazil, and other Latin American countries such as Chile can thus help to advance MIT's domestic and international objectives simultaneously.

China. MIT must expand its engagements in and with China, for the simple reason that Chinese researchers will increasingly be present at the frontiers of science and technology, where MIT faculty and students must also be. But as we seek new opportunities for collaboration, we must also be prepared for periods of political tension between the U.S. and China. Economic competition may aggravate political strains over trade and technology, and strategic rivalry between the two countries may intensify in different parts of the world. At the same time, cooperation on climate change mitigation, clean energy, environmental sustainability, and other issues may also increase. A challenge for MIT will be how to operate in an asymmetric information environment, in which new scientific knowledge, including new knowledge that MIT faculty help to create through collaborations with Chinese colleagues, will not flow as freely in China as in the U.S. MIT's longer-standing engagements elsewhere in Asia, including in Japan, Korea, Taiwan, and Singapore, are free of most of these complications, and will continue to be important even as the Institute considers new possibilities in China.

I.B Expand MIT's global classroom

Experiential international learning is a distinctive feature of MIT education, and MIT's undergraduate and graduate students have access to a wide range of opportunities of this type. As noted, interest in these opportunities is growing, with 50% of the most recent class of graduating seniors (2016) reporting at least one international educational experience, compared to 23% in 2006. Program leaders indicate that there continues to be unmet demand for these experiences, as well as financial constraints that affect supply.

MIT should commit itself to providing an MIT-quality international experience to every undergraduate who desires one, as a key component of undergraduate education, similar to the role played by UROP today.

A faculty committee should be convened to consider, together with the administrators of the major global education programs, how best to achieve this goal. The committee should:

- Assess the range of international experience pathways currently available for MIT students, taking into account the educational value of different types of experiences, including the time at which they occur, their duration, and links to student curriculum/study and faculty research. In addition, special consideration should be given to student populations that currently face high barriers to participation, including financial barriers.
- Recommend ways to implement this Institute commitment effectively, recognizing that the units currently offering global experiences have different reporting lines, funding structures, and oversight. The committee's plan should address how much funding is needed to achieve this goal and how best to allocate and manage funds.

Additionally, the plan should outline the processes that are needed for effective program delivery and long-term viability.

I.C Streamline and strengthen international educational assistance/institution-building programs

In expectation that MIT will continue to receive requests for assistance in building new universities and upgrading existing research and educational capabilities around the world, we should:

- Look for opportunities to consolidate and standardize key services that are often provided in these programs (such as ‘teach-the-teachers’, faculty development, administrative leadership development, technology transfer, and innovation and entrepreneurship programs).
- Explore smaller-scale offerings accessible to smaller or poorer countries that are unable to afford customized, ‘full-function’ institution-building programs.
- Identify ways to deliver more services at MIT to reduce travel burdens and resulting wear-and-tear on faculty and staff.
- Strengthen efforts to share experiences and promote learning across our large ongoing international institution- and capability-building programs.
- Encourage departments, laboratories, centers, and schools to play a larger role in identifying and developing international projects that can augment Institute-level initiatives.

The MIT Office of Digital Learning (ODL) and its various initiatives including the Integrated Learning Initiative (MITiLi), MITx, and the new Jameel World Education Laboratory are collaborating with education researchers and working with colleges and universities in different regions to design and deliver capacity-building services linked to educational innovation. ODL will have an important role in implementing this recommendation.

II. Bringing the World to MIT

Under the general heading of ‘bringing the world to MIT’, there are two main proposals:

II.A Develop a new MIT Global Leaders program

We should explore the feasibility of a new kind of global leadership development program that would build on MIT’s reputation as the world’s leading scientific and technological university. The theme of the program would be the wise, humane, and effective application of science and technology. General design criteria would include deep immersion in an important technical field, academic rigor and excellence, interdisciplinarity, exposure to the MIT ‘fire hose’, and active involvement in solving problems and translating research ideas to impact.

In one possible version, the program would be designed for an international group of candidates roughly 25 to 35 years of age, with outstanding undergraduate performance and a demonstrated post-graduate track record of problem solving and leadership.

Students in the Global Leaders program would receive a full scholarship for three years. During the first part of this period they would (a) obtain an MIT master's degree or enter a Ph.D. program in any field of their choosing, or otherwise follow a path enabling deep immersion in a field; and (b) participate with their cohort in leadership development activities. Their focus would shift over time to designing and launching a practical project. Some of the scholars matriculating in master's programs might choose to enter an MIT Ph.D. program at some point during their three-year scholarship.

The cohort-building part of the program would include visits to countries in several regions of the world (occurring during IAP and the summer months). These visits would familiarize students with important challenges in different parts of the world that involve the application of science and technology; give them insight into how these challenges are understood culturally and politically in different regions; and help them build or strengthen networks useful in their current projects and/or future career development. Each visit would be organized in collaboration with a leading university in that region which would host the Global Leaders scholars and effectively partner with MIT to deliver the program.

The three-year duration of the program would allow scholars to gain deep exposure to the MIT community and develop strong connections to it.

The program would also strengthen MIT's ability to mobilize around a major interdisciplinary problem area. In any given year (or two- or three-year period), the composition of the incoming class could be focused around a high-priority topic for MIT at that time—e.g., the food/water nexus, climate adaptation, urban mobility, cybersecurity and privacy, etc. Scholars could participate in MIT-wide efforts on that subject. A program co-director with recognized expertise in the identified topic area could be appointed for a limited term to serve alongside the permanent program director. The ability to refocus the class composition from one year to the next would further enhance MIT's already distinctive capacity to mobilize flexibly around major global challenges.

An Institute-wide faculty committee should be formed to explore the feasibility of such a program in more detail and to recommend whether to proceed.

II.B Review the cap on international undergraduate admissions

MIT's current policy limits the number of international undergraduate students who live abroad to 6% of annual undergraduate admissions. (Foreign-born students who already live in the U.S. are reviewed with the domestic applicant pool.) This has resulted in an enrollment rate of approximately 10% international students in each incoming class. MIT last reviewed the current policy nine years ago, at the time of the 2008 financial crisis, and another review would be timely. The review should be carried out by the Committee on Undergraduate Admissions and Financial Aid.

The issue is complex. One of the arguments for considering a higher cap is to bring more of the world's most talented students to MIT. Typically, international undergraduate students have above-average GPA and graduation rates. But those living abroad also on average require more financial aid. A change in the cap would require consideration of the impacts on the financial aid budget and how these impacts would affect other priorities for that budget as well as any additional resources MIT might want to direct towards financial aid. An important consideration is to avoid policies that would make it easier for international students of wealth to be admitted at the expense of students of more limited means. Also, if total class size were kept constant, relaxing the cap on international admissions would reduce the number of places for domestic students. Increasing the class size is unlikely to be practical in the near term, given that MIT's on-campus housing system is currently capacity-constrained. But for the purposes of reviewing current policy regarding undergraduate international admissions, the possibility of a future increase in class size should also be considered.

III. Strengthening Governance and Operations

To further strengthen and expand international activities at MIT, I recommend several administrative changes:

- Establish a new external advisory committee for MIT's international activities to provide focused, expert advice on programs, strategies, and plans.
- Reconstitute the International Advisory Committee as an administrative committee of the Institute that is tasked with providing independent faculty advice on the full range of MIT's international engagements, including assessments of potential, ongoing, and completed activities to ensure that they effectively advance MIT's core mission in teaching, research, and service.
- Develop and implement a strategic communications plan for international engagements, focused on how best to present MIT's international activities and aspirations to key domestic and international audiences, and how to achieve more effective coordination of relevant communications, news, and social media content.
- Investigate new ways to support faculty international engagements with stronger operational processes, services, and tools. Further input and advice from faculty and staff should be sought as part of an effort to identify, prioritize, and implement such improvements.

THE UNCERTAIN OUTLOOK FOR INTERNATIONAL ENGAGEMENT

This plan has described several practical steps that MIT can take to build a more robust platform for successful international engagement by MIT faculty and students. The approach presented here will provide new opportunities for the MIT community to work for change in the world and, in so doing, sustain and strengthen MIT itself.

But a major question looms. Is it possible for MIT to pursue its global goals and aspirations successfully at a time when doubts about the economic benefits of globalization may be growing in the U.S. and elsewhere; when political and religious intolerance seem to be rising around the world; when governments, including our own, are pursuing more overtly nationalist agendas; and when the future of the American-led international order is in question?

This plan has asserted the importance of staying the course in MIT's international strategy. The Institute's mission is to develop in its students the ability and passion to work wisely, creatively, and effectively for the betterment of humankind. Engaging internationally, and achieving international impact, are central to achieving that mission, and thus to remaining at the forefront of higher education and research. But how, in practice, can MIT operate successfully in an environment that may be less hospitable and even hostile to some of its key goals and values?

The negative impact of these external developments should not be exaggerated. MIT is an independent institution with its own mission, goals, and values, and can steer its own course in the international arena as well as at home.

Moreover, much of what MIT accomplishes in the international arena is enabled by personal and professional relationships of trust between our faculty and their colleagues in other countries. Even where governments may be moving to constrain academic freedoms, there will still be residual space for cross-border collaborations.

Finally, MIT's own stock has been appreciating internationally. Indeed, the Institute's international reputation may be stronger today than ever before. The MIT faculty is world-renowned. A stream of extraordinary discoveries continues to flow from its laboratories. Its ability to connect scientific research to innovation and economic development is much admired around the world. Foreign governments and universities want to work with MIT, and international students are seeking to study at MIT in unprecedented numbers. MIT is consistently at or close to the top of major international university rankings. All of this will help MIT achieve its international goals.

Nevertheless, recent domestic and international developments create potentially serious new risks. For example:

- International students, post-docs and visiting scholars may be less likely to apply to American universities, including MIT, because of uncertainties over immigration policies and the perception that foreigners will be unwelcome in the United States.
- International candidates for faculty positions may similarly become more reluctant to apply because of concerns about the environment for immigrants in the U.S.
- Universities elsewhere may become more attractive to outstanding student and faculty candidates who might previously have preferred to come to MIT.
- MIT faculty, staff, and students who are not U.S. citizens may be more reluctant to travel abroad professionally in light of uncertainties in U.S. border policy and the risk of retaliatory actions by other governments.
- The flow of research, educational and philanthropic funding to MIT from elsewhere may be adversely affected by the prospect of more adversarial relations between the U.S. and other countries.
- MIT's international collaborations in and with important countries and regions including Mexico, China, Russia, and the Middle East may be disrupted by an increasingly adversarial political climate.
- MIT and other U.S. research universities may be targeted politically because they are associated with technologies that are perceived to have socially disruptive impacts, including job-displacement impacts that may be far larger than those observed to date.

MIT cannot protect itself fully from these risks. But it could take several actions to mitigate them, such as:

- **Developing an effective communications strategy that clearly articulates the Institute's goals for international engagement.** The strategy should target international stakeholders, including international alums, national and local governments, prospective faculty and students, and others, and should also address domestic stakeholders. These communications should emphasize MIT's autonomy and where appropriate should clearly distinguish between the university's goals and those of governments (including those of the U.S. government). They should demonstrate that MIT is a welcoming and inclusive community that is ready to support those of its faculty, students, and staff who must struggle with immigration and travel issues that U.S. citizens do not face. They should underscore the ongoing importance of international collaboration in terms of achieving MIT's mission and goals. They should also emphasize the benefits that international collaboration has historically provided to MIT and our partners, as well as to the U.S. economy generally and our own region more specifically. Finally, the communications strategy should also focus on clearly demonstrating the role of an MIT education in creating lifetime opportunities for outstanding domestic and international students of every background.

- **Building alliances and partnerships that will help make MIT's international activities more robust.** These include:
 - Partnerships with leading international universities that share MIT's commitment to the values of intellectual excellence and rigor, discovery, tolerance, and open-mindedness.
 - Partnerships with large multinational corporations. These companies are themselves facing new pressures in the changing international environment, but the best of them are resourceful, creative, and financially strong, and they will find new ways to prosper under new conditions.
 - Partnerships at the innovation ecosystem level. The fact that important problems are increasingly being addressed at the ecosystem level provides new research opportunities for MIT faculty and students. One possibility would be to focus on building a network of some of the world's most dynamic innovation hubs, each with a comparative advantage in a different area. The hubs could work together to address some of the world's great challenges such as climate change mitigation, clean water, or physical security and cybersecurity.
- **Linking MIT's partnerships with international firms and governments to the effort to build our own innovation economy.** This would mean encouraging international partners to locate R&D and production facilities in our region, and working with state and local governments to enable such moves. This could include branding local ports of entry as the nation's most hospitable to visitors, strengthening transportation links between the Boston-Cambridge innovation hub and other, economically less-advantaged parts of the region, and creating additional opportunities for firms locating in the region to benefit from educational and research activities at MIT and other local universities.
- **Expanding the range of contingency plans MIT has developed for international emergency situations.** This would include maintaining effective lines of communication with relevant federal agencies. It would also entail preparing the Institute's own international safety, security, and crisis management infrastructure to address the risks of MIT personnel being stranded outside the U.S. and of retaliatory actions by foreign governments.
- **Strengthening MIT's capacity to assess and address the socio-economic, socio-political, and ethical consequences of scientific and technological advances.**

FINAL NOTE

In light of current uncertainties and the rapid pace of international developments, these findings and recommendations should be reviewed for relevance in 12 months. In addition, a comprehensive new strategic planning effort should be undertaken no more than 5 years from now.

APPENDICES

Appendix 1: Process

This report was prepared by Associate Provost Richard Lester with the support of a team led by Cecelia Wardle, Director of Special Projects in the Office of Major Agreements, and also including Robin Lemp, Director of the Office of Major Agreements; Magdelene Lee, Assistant Director of the Office of Major Agreements; and Bernd Widdig, Special Assistant to the Associate Provost for International Activities.

The strategic planning process has been divided into three phases: 1) the discovery phase, to map and understand current activities at MIT, the global landscape, and what our peer schools are doing internationally; 2) the development phase, to synthesize emerging ideas and develop concepts and implementation plans; and 3) the implementation phase, to put the strategic plan and its recommendations into effect (this will begin, nominally, after the current report is distributed).

During the first two phases, the team sought input from many groups and individuals across campus and externally. In many cases, meetings were held with the same group or individual in both phases. Below is a summary of the meetings held to date:

Individual meetings with faculty and staff across campus

Committees/councils/other groups:

- Academic Council
- AO conference sponsored by Administrative Advisory Council II (AACII)
- Electrical Engineering & Computer Science (EECS) faculty lunch
- Engineering School Council
- Faculty Meeting
- Faculty Policy Committee
- Faculty Task Force on International Engagement (see below for more information)
- Global Theme Team
- International Advisory Council (IAC)
- International Coordinating Committee (ICC)
- MISTI Program Directors
- MIT Corporation Executive Committee
- Presidential Advisory Cabinet (PAC)
- President's CEO Advisory Board
- Science School Council
- School of Architecture and Planning (SA&P) Council
- School of Humanities, Arts and Social Sciences (SHASS) Council
- Sloan Dean's Group meeting

Major initiatives:

- Abdul Latif Jameel World Water and Food Security Lab (JWAFS)
- Environmental Solutions Initiative (ESI)
- Innovation Initiative
- MIT Energy Initiative (MITEI)
- Office of Digital Learning (ODL)/MITx

Offices with global reach:

- Alumni Association
- Industrial Liaison Program (ILP)
- International Students Office
- International Scholars Office
- Resource Development
- Sloan International Office
- Tech Review/Enterprise Forum

Peer school interviews:

- Carnegie Mellon University
- Emory University
- ETH Zurich
- Harvard University
- Imperial College
- Johns Hopkins University
- Stanford University
- University of Pennsylvania
- Yale University

Faculty Task Force on International Engagement.

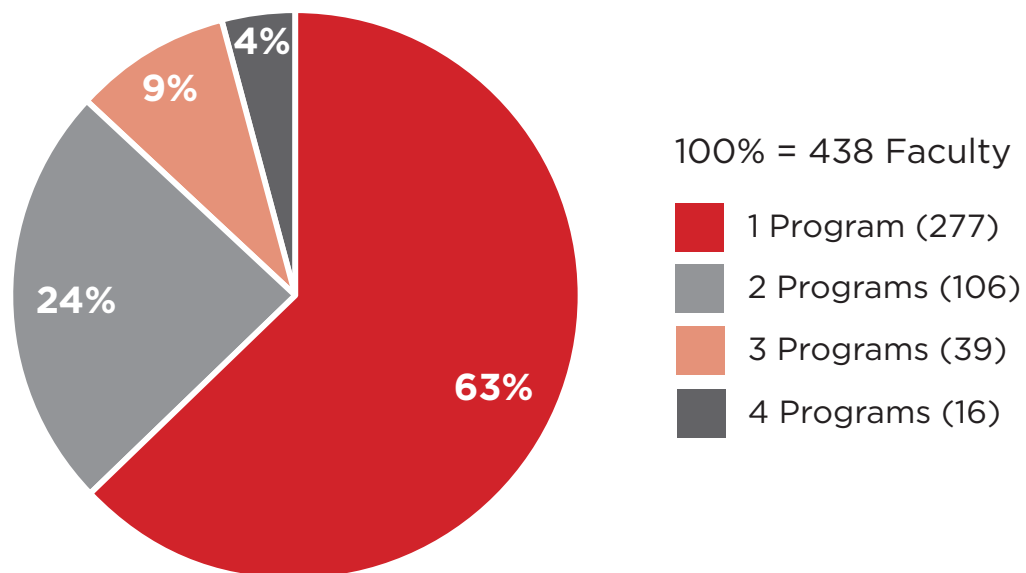
- Early-post-tenure faculty committee charged with exploring new international opportunities and assessing the emerging strategic framework for international engagement.
- Members: Professors Alfredo Alexander-Katz (Materials Science and Engineering), Pierre Azoulay (Sloan), Chris Capozzola (History), Mei Hong (Chemistry), Markus Klute (Physics), Clapperton Mavhunga (STS), Catherine Tucker (Sloan), Anne White (Nuclear Science and Engineering), Chris Zegras (Urban Studies and Planning).
- Faculty Forums/Roundtables: The task force convened seven meetings in the five schools with 43 faculty participants to discuss MIT's international engagement.

Appendix 2: Overview of large MIT institution-building programs

PROGRAM	OBJECTIVES	DURATION
MIT & Masdar Institute Cooperative Program ("Masdar")	Provide advice and guidance in the establishment of Masdar Institute, and collaborative research focusing on energy, sustainability, water, food, health, and innovation.	I: 2006-2013 II: 2011-2017
MIT Portugal Program ("Portugal")	Collaborate with Portuguese institutions to strengthen the scientific capacity of Portugal, including establishment of graduate education and research consortia, extensive innovative and entrepreneurial programs, visitor program, research seed funds and collaborations.	I: 2006-2012 II: 2013-2018
MIT Skoltech Program ("Skoltech")	Multi-faceted institution building collaboration with the Russian government to establish a new graduate research university outside Moscow "focused on discovery and innovation in science and technology for social betterment."	I: 2011-2016 II: 2016-2019
Singapore-MIT Alliance 1 and 2 ("SMA 1 & 2")	Education and research collaboration among MIT, National University of Singapore, and Nanyang Technological University. Offer graduate education programs.	I: 1999-2005 II: 2005-2016
Singapore-MIT Alliance for Research and Technology ("SMART")	MIT's first research center outside of the U.S. The research center serves as an intellectual hub for research, scholarship, entrepreneurship, and postgraduate/postdoctoral training, as well as engages researchers from universities, research institutes, and industries in Singapore and Asia to facilitate technology transfer for the benefit of the public.	2007-2021
MIT-SUTD Collaboration ("SUTD")	Assist the set up of Singapore University of Technology and Design (undergraduate) and establish the Singapore-MIT International Design Center. Conduct research activities for the educational and research objectives of the university.	2010-2017 (Education) 2010-2020 (Intl Design Center)

Faculty Participation in Major Programs

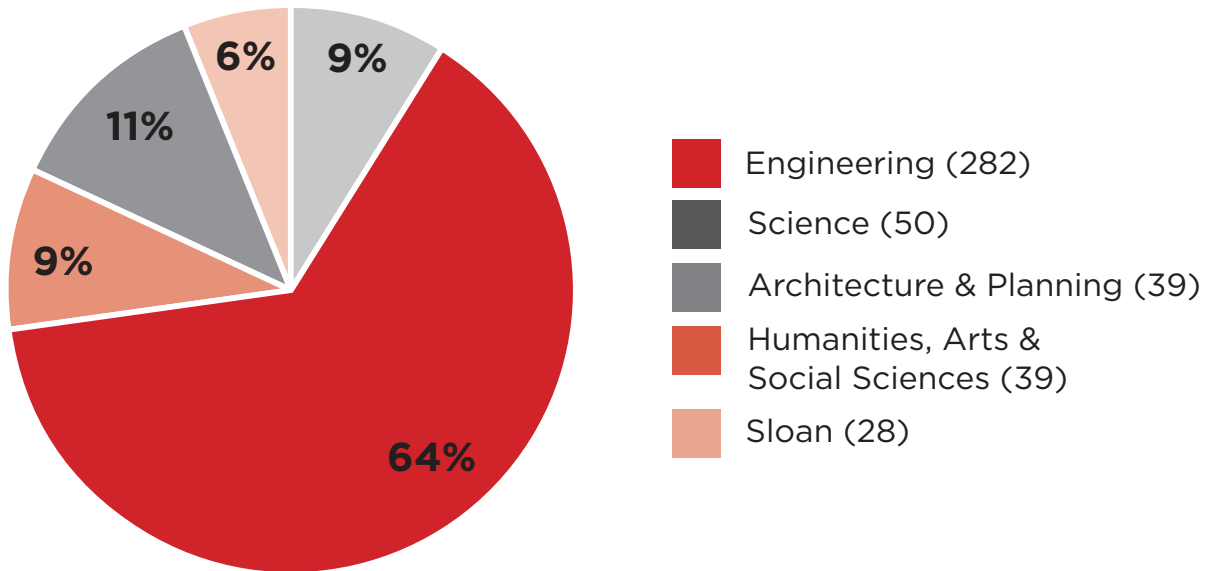
- 438 individual faculty participated in at least one of the six major programs surveyed
- 37% (161) of the 438 participated in two or more programs



Cumulative Participation by Program through December 2015

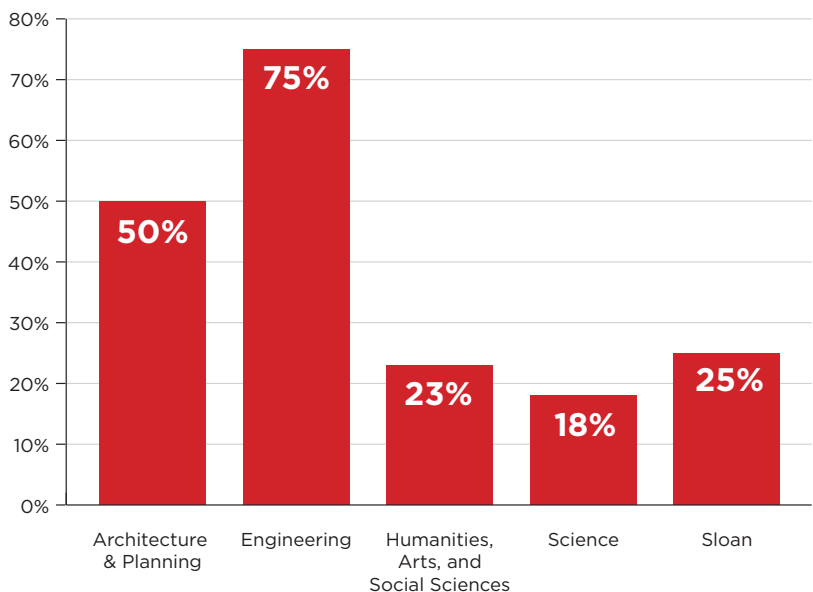
PROGRAM	DURATION IN YEARS	# OF FACULTY
Masdar	10	133
Portugal	10	79
Skoltech	4	171
SMA 1 & 2	17	60
SMART	9	67
SUTD	6	163

Faculty Participation in Major Programs by School



Percentage of School Faculty Involved in Major Programs

Approximate percentage of faculty from each school that participated in one or more programs through December 2015



The percentages are calculated using AY15 faculty count as the basis

Appendix 3: Interviews with peer universities—key takeaways

The team interviewed senior staff at nine peer universities, with the following topics guiding the conversations:

- guiding principles for international activities
- status of international strategic plan
- structures for programmatic and operational support
- activities abroad: type, description, country
- foreign campus(es)/degrees
- other noteworthy activities

Most of the universities/schools interviewed are much bigger and more diversified than MIT. Nonetheless, we were able to identify a number of themes cutting across multiple respondents, as well as a handful of noteworthy, one-off observations or experiences from one or just a few partners' responses:

Common Themes

- Most of the interviewed schools don't have formal strategic plans, but many expressed the need for one or the intent to create one.
- Most had an Office of International Activities (or equivalent), reporting to a Vice Provost or Provost. The reporting relationship/org location was felt to be significant, and importantly rooted in the academic sphere.
- Operational support structures varied, but all seemed to have grappled with the desirability (clarity, simplicity, end-user focus) of having a single point of contact for international operational issues, balanced against the reality that those issues are mostly resolved at the departmental/unit level.
- Several schools used financial incentives to achieve international strategic objectives (grant making to support multi-disciplinary faculty collaboration around the world, or a Provost's Office "research and engagement fund"), while others offered non-financial incentives (information exchange, publicity, or ease of use via operational improvements).
- Nearly all had created separate legal entities/subsidiaries to facilitate international operations.
- Almost none do institution building/capacity enhancement à la MIT.

Other Noteworthy Ideas/Approaches

- Data gathering/utilization (metrics) approaches: annual progress reporting for every international “project” and responsible office listed in the strategic plan, or gathering/providing real-time info on what students and faculty are doing internationally (via “faculty profiles”).
- Continuous operational improvements process.
- Distinguishing between work done “in” versus “on” a location/region.
- Utilization of an active university-level faculty committee that reviews all projects “of complexity” and advises Provost.

Universities/Schools Interviewed

- Carnegie Mellon University
- Emory University
- ETH Zurich
- Harvard University
- Imperial College, London
- Johns Hopkins University
- Stanford University
- University of Pennsylvania
- Yale University

Appendix 4: Previous MIT reports on international engagements

TITLE	ORGANIZATIONAL SPONSOR	PRIMARY AUTHORS	DATE	DESCRIPTON
The International Relationships of MIT in a Technologically Competitive World	MIT Faculty Study Group on the International Relations of MIT, Appointed by the Provost	Eugene Skolnikoff <i>chair</i>	May 1991	Faculty Study Group established in 1990 to examine the issues raised by the dramatically changed international setting (social, economic, political) in which MIT operates — and to advise MIT’s administration and faculty on “the general principles that should guide MIT’s international activities and relationships, and to suggest any revisions in policies and activities that should be considered.”
Global Educational Opportunities for MIT Undergraduate Education (GEOMIT): Final Report	Committee on Global Educational Opportunities for MIT Undergraduate Education (GEOMIT)	Linn Hobbs, Hazel Sive <i>co-chairs</i>	September 2007	Committee charged with “defining how opportunities for global education can be expanded in the MIT undergraduate education.” Their report makes a large number of recommendations, aimed at achieving “a sizeable expansion of global education at MIT...using a range of existing models whose effectiveness has been well demonstrated.” They also considered “deficits that are present in the scope and mechanism by which these opportunities are offered to students.
Mens et Manus et Mundus: New Directions for Global Education and Research at MIT	MIT Global Council	Richard Samuels, Dick Yue <i>Global Council co-chairs</i>	September 2009	Formed in 2008 “to articulate a strategy for boosting MIT’s profile in global education and global research”, the Report of the MIT Global Council offers a “roadmap for making international studies a core part of an MIT education — and for creating a model community where research, scholarship, and innovation are profoundly informed by global knowledge and awareness.”
Guiding Strategies for MIT’s International Activities	MIT International Advisory Committee (IAC)	Claude Canizares, Philip Khoury <i>IAC co-chairs</i>	September 2009	Formed in 2007, the IAC was tasked with “contributing to the design of an international strategy for the Institute”. This document represents that contribution, by defining primary goals (4), general guidelines (8), and “practical recommendations” (9) for MIT’s international activities
The MIT-Greater China Strategy: Report to the President and Provost of MIT	MIT China Strategy Working Group (with the Office of Global Initiatives)	Victor Zue <i>chair</i>	August 2010	Outlines a proposed 20-year strategy for the Institute’s China-related engagements – without losing sight of MIT’s ability to continue to make a bold, short-term impact in the region.” The Report sets out guiding principles and 7 specific recommendations.
Institute-wide Task Force on the Future of MIT Education: Final Report	Task Force on the Future of MIT Education	Israel Ruiz, Sanjay Sarma, Karen Willcox <i>co-chairs</i>	July 2014	16 recommendations “to promote educational connections across the Institute, transform pedagogy through bold but thoughtful experimentation, extend MIT’s impact to the world, broaden access to high-quality education, and improve affordability for future generations of learners.”

Richard K. Lester

Associate Provost for International Activities
Japan Steel Industry Professor of Nuclear Science and Engineering
Massachusetts Institute of Technology

77 Massachusetts Avenue
Room 4-104
Cambridge, MA 02139

comments-globalstrategy@mit.edu