Digital technologies are driving unprecedented change, disruption, and opportunity in business, the economy, and society. As the pace of change accelerates, it’s imperative that humans examine the most pressing question of our time: How do we thrive in a period of profound digital transformation?

The mission of the IDE is rooted in positive action. We believe there is remarkable opportunity for humans to thrive and prosper in the digital age. While our research is academic in its approach, our charter is to understand, inform, and pragmatically solve real-world challenges based on facts and causality.

Led by MIT Sloan’s Erik Brynjolfsson and Andrew McAfee, the IDE represents MIT at its best. The Initiative collaborates closely with colleagues across the Institute in disciplines such as economics, engineering, computer science, and robotics. We offer a unique solution-space where stakeholders can research and experiment, discuss and debate, teach, and learn.

Our ability to convene stakeholders and build upon evidence-based research allows the IDE to generate ideas and mechanisms that will ensure a robust and inclusive global economy.

We are unique among academic initiatives in our commitment to “action academics”—applying insights to drive to drive business outcomes, economic policy, and social change. The Inclusive Innovation Challenge (IIC) inspires entrepreneurial organizations around the world to reinvent the future of work through technology and create shared prosperity in the digital age.

Learn more about our mission, vision, research, and upcoming events at ide.mit.edu.

The year 2017 was one of epic disruption, with AI, platforms, blockchain, and fake news all posing new challenges that will shape the digital economy for years and decades to come. No other initiative in the world is exploring the trends and impact of the digital economy with the same determination, focus, and perspective as the IDE.

Principal Investigator Renée Gosline specializes in experiments that incorporate behavioral science into human-machine interfaces.
IN THE PRESS

The IDE experienced a significant increase in press coverage in 2017, which expanded our global reach and deepened public understanding of our mission and vision. We reached out to stakeholders and external audiences through more channels than ever before, and optimized our social media presence, including the launch of Facebook and LinkedIn pages.

ON SHELVES

In “Machine, Platform, Crowd: Harnessing Our Digital Future,” co-authors Andrew McAfee and Erik Brynjolfsson explain what it takes to master the current digital power shift: We must rethink the integration of minds and machines, of products and platforms, and of the core and the crowd. Hailed by critics as “essential reading,” the book is ideal for startups and businesses, or for those interested in what the digital future holds.

GROUNDBREAKING RESEARCH

Our team of world-class researchers, fellows, and visiting scientists conduct cutting-edge research in collaboration with stakeholders, business, government, and other institutions. In 2017, we also launched a number of collaborative research projects with companies, including Capgemini Consulting, Philips Lighting, and The Boston Globe.

MEMBERSHIPS ON THE RISE

We continued to build and expand relationships with new and existing Corporate Members. Our members played prominent roles at our events as speakers and as vocal participants. We grew our Corporate Membership program significantly with the addition of AI in Gov, Dell EMC, Deloitte Digital, EMD Serono, Falabella, and IRC4HR.

LEARNING IN ACTION

IDE content was featured in several MIT Sloan Executive Education courses, including Big Data, Platform Strategies, and the Internet of Things. In addition, the IDE managed the Analytics Lab (A-Lab), a project-based course focused on big data and modern analytics applied to real world problems using data provided by our Stakeholders.

YEAR OF ACHIEVEMENTS

EVENTS WITH IMPACT

The IDE designs academic and industry-specific activities and conferences to bring bright minds together to exchange ideas, learn, and create solutions. In 2017, we convened thought leaders and industry experts from around the world to tackle the most pressing challenges of the digital era, including artificial intelligence and machine learning disruption. During the past year, we experienced an increased number of attendees and expanded the reach of our events via livestreaming and video.

2017 INCLUSIVE INNOVATION CHALLENGE

Our flagship initiative, the Inclusive Innovation Challenge, has awarded more than $2 million during the past two years to entrepreneurs who are reinventing the future of work.

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GROWTH IN THE AGE OF AUTOMATION

THE EFFECT OF AGING ON ECONOMIC GROWTH IN THE AGE OF AUTOMATION

Several recent theories emphasize the negative effects of an aging population on economic growth, either because of the lower labor force participation and productivity of older workers, or because aging will create an excess of savings over desired investment, leading to secular stagnation. We show that there is no such negative relationship in the data. If anything, countries experiencing more rapid aging have grown more in recent decades. We suggest that there is no such negative relationship in the data. If anything, countries experiencing more rapid aging will create an excess of savings over desired investment, leading to secular stagnation. We show that there is no such negative relationship in the data. If anything, countries experiencing more rapid aging have grown more in recent decades. We suggest that this counterintuitive finding might reflect the demographic— are more expensive marketing targets. Our research shows that an algorithm that simply optimizes cost-effective ad delivery will deliver ads in an apparently discriminatory way, even if the ad is intended to be gender-neutral. This project demonstrates how intentions can go awry in major digital platforms.

NEW MEASURES OF THE ECONOMY

DATA-DRIVEN DECISION MAKING IN ACTION

Dramatic improvements in data storage and processing technologies in recent years have fundamentally reshaped entire sectors of the economy. In U.S. manufacturing, new opportunities to collect and leverage data have led many managers to change how they make decisions, encouraging a greater reliance on digital information rather than intuition. We provide the first large-scale empirical study of the diffusion of data-driven decision making (DDD) and the factors influencing its adoption in U.S. manufacturing firms. We find that greater use of DDD is associated with a statistically significant increase in productivity, on average. Performance differentials decrease over time for early and late adopters, consistent with firm learning and development of organizational complementarities.

AI AND THE MODERN PRODUCTIVITY PARADOX: A CLASH OF EXPECTATIONS AND STATISTICS

We live in an age of paradox. We see transformative new technologies everywhere except in the productivity statistics. Increasingly, systems using AI match or surpass human-level performance, leveraging rapid advances in other technologies, and driving soaring stock prices. However, real income has stagnated since the late 1990s for a majority of Americans, while measured productivity growth has declined by half during the past decade. We describe four potential explanations for this clash of expectations and statistics: false hopes, mismeasurement, redistribution, and implementation lags—and find the last one as the biggest contributor to the paradox. The most impressive capabilities of AI, particularly those based on machine learning, have not yet diffused widely. More importantly, like other general-purpose technologies, the full effects of AI won’t be realized until waves of complementary innovations are developed and implemented.

The findings of our research have the power to help people shape their destinies in a time of tremendous technological transformation.
In October 2017, the MIT Inclusive Innovation Challenge (IIC) awarded more than $1 million in prizes to Inclusive Innovators—entrepreneurs around the world that are using technology to reinvent the future of work. Why? To create greater shared prosperity, a grand challenge of our time.

As digital technology races ahead in the Second Machine Age, we must address the grand challenge of creating greater shared prosperity. By identifying and promoting the powerful global community of future of work visionaries, the IIC accelerates the technology-driven solutions enabling greater economic opportunity for working people around the world.

The IIC expanded its reach in 2017, supporting Inclusive Innovators and demonstrating that technological solutions are creating greater shared prosperity today. Whether they are providing easier access to financial loans, offering coding classes or college-entry support, or skillling and matching workers to new work opportunities, the winning global entrepreneurs earned their awards by using technology to engage thousands of more people in the digital economy.

We’re celebrating the entrepreneurs and innovators who are demonstrating so many different ways to put powerful technology to use to improve people’s economic prospects. Our award Winners and other entrants show us that broadly shared prosperity is possible, which makes a great antidote to pessimism and negativity.

The IIC awards prizes to Finalists and Winners from the five major continents. We work with Collaborators to identify 60 Regional Finalists. Twenty Winners will continue to MIT. Four Global Grand Prize winners will each receive $250,000.

mitinclusiveinnovation.com
IDE ANNUAL CONFERENCE
MAY 2017
The IDE Annual Conference is a unique opportunity for our stakeholders to hear our latest research results, discuss areas of focus going forward, and engage in dialogue with our researchers and each other. Our annual “drink from the firehose” event offered brief, TED-style presentations of our current research projects.

BUILDING SKILLS FOR AN INCLUSIVE ECONOMY
MAY 2017
The IDE and Inclusive Innovation Challenge hosted a panel highlighting how technology can close the skills gap, increase equity, and build a more inclusive economy. The event featured leading experts Eric Schmidt (Alphabet), Robert A. DeLeo (Massachusetts Speaker of the House), Erik Brynjolfsson (IDE), Shawn Bohen (Year Up), and Kara Miller (WGBH).

MIT DISRUPTION TIMELINE CONFERENCE SERIES: AI & MACHINE LEARNING
MARCH 2017
This timely event was the first in our annual series exploring how technology is changing the landscape of human labor and business. We convened leaders from industry, academia, and government to discuss the status and trajectory of AI and machine learning, and to explore and debate what the future may hold in the coming five to 10 years.

CONFERENCE ON DIGITAL EXPERIMENTATION (CODE)
OCTOBER 2017
This two-day Conference on Digital Experimentation (CODE) brought together leading researchers conducting and analyzing large-scale, randomized experiments in digitally mediated social and economic environments. Organized by the IDE’s Sinan Aral, Erik Brynjolfsson, and Alex “Sandy” Pentland, the event attracted more than 200 attendees from several scientific disciplines—including economics, computer science and sociology—to gain better insights into human behavior. CODE hosted over 60 presentations, including a Fireside Panel on “The Truth About Fake News.”

AN EVENT-FILLED YEAR
IN 2017, THE IDE HOSTED A RECORD 27 EVENTS WITH MORE THAN 4,500 ATTENDEES.

Gill Pratt, CEO of the Toyota Research Institute, spoke at the MIT Disruption Timeline Conference on AI & Machine Learning.

IDE teamed up with MIT CSAIL (Director, Daniela Rus pictured with Erik Brynjolfsson) for a conference on AI and the Future of Work.

LEARN ABOUT 2018 EVENTS AT IDE.MIT.EDU
The IDE hosted the fourth annual workshop on platform-centered economics and management. We assembled a global community of executives to explore the economics and management of platform-centered markets and discuss their implications for managers, industry, and governmental policy. The IDE published a report of the valuable insights offered at the Summit, available at ide.mit.edu/platforms2017.

IDE SEMINAR SERIES
FEBRUARY-DECEMBER 2017

Our informal seminars include early results from current research projects and provocative new ideas. Select seminars are available online at ide.mit.edu/seminars2017. Speakers included:

- Bo Cowgill
  Columbia University

- Andrey Fradkin and Erina Ytsma
  IDE

- Avi Goldfarb
  University of Toronto

- Maarten Goos
  Utrecht University School of Economics

- Mark Gorenberg
  Zetta Venture Partners

- Xiang Hui and Meng Liu
  IDE

- Michael Jacobides
  London Business School

- Gary Marcus
  NYU

- Max Neufeind
  Federal Ministry of Labour and Social Affairs, Germany

- Alex Psysakhovich
  Facebook

- Jeffrey Sachs
  Columbia University

- John Van Reenen
  MIT

- Hal Varian
  Google

- Andreas Weigend
  UC Berkeley and Fudan

- Alex Peysakhovich
  IDE

- Michael Zhang
  HKUST Business School

- Jeffry Sachs
  Columbia University

- John Van Reenen
  MIT

- Hal Varian
  Google

- Andreas Weigend
  UC Berkeley and Fudan

- Michael Zhang
  HKUST Business School

MIT SLOAN CIO SYMPOSIUM
MAY 2017

Hundreds of thought leaders and practitioners gathered to provide insight into the most critical issues and opportunities around the digitization of business.

A-LAB 2014-2017

220 students / 68 projects / 12+ departments

IDE faculty and researchers taught a number of executive education courses during 2017, including:

- Platform Strategies
- Internet of Things: Business Implications and Opportunities
- Essential IT for Non-IT Executives
- Executive Program in General Management
- AI: Implications for Business Strategy
- Digital Marketing and Social Media Analytics

MIT ANALYTICS LAB

In the MIT Analytics Lab, or A-Lab, student teams select and deliver a project using analytics, machine learning, or other digital technologies to solve business problems. Organizations from around the world, including sponsors of the IDE, provide their data, time, and insights at the start of the semester to help student teams deliver actionable solutions and impactful findings.

Projects during the past year ranged from areas as diverse as talent acquisition and firm performance, airline operations, customer segmentation, search optimization, fraud prediction, and optimizing match rates on a dating app.

A-Lab is a requirement for the MIT Master of Business Analytics degree program. It remains one of the most popular courses among MIT students pursuing careers in data science.

In this time of transformation, companies need to rethink the balance between minds and machines, between products and platforms, and between the core and the crowd. The second element of each pair has become much more capable and powerful within the past few years.

The conference “Machine, Platform, Crowd” focused on what Erik Brynjolfsson and Andrew McAfee call “the second phase of the second machine age”—a phase with a greater sense of urgency, as technologies are demonstrating that they can do much more than routine work.

The 2017 Platform Strategy Summit report presents 11 case studies about the impact of platform-centered markets on business and policy.

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2018: A LOOK AHEAD

Automation, digital platforms, and other innovations are changing the fundamental nature of work and more rapid change is ahead.

The IDE will continue mapping the landscape for the future of work, helping business leaders, policy makers, and workers understand these shifts and move forward with confidence.

INCLUSIVE INNOVATION CHALLENGE 2018

In 2018, we are pioneering IIC Global, a truly international tournament to identify, celebrate, and support the most innovative future of work entrepreneurs. The IIC is collaborating with like-minded collaborators in five regions around the world—North America, Latin America, Europe, Africa, and Asia—to broaden our reach to deserving applicant organizations around the world, derive lessons from the global community, and accelerate the Inclusive Innovation movement. Twenty Regional Winners will be celebrated at the 3rd Annual IIC Awards Celebration following the Future of Work Congress at MIT.

THE FUTURE OF WORK: CAPITAL MARKETS, DIGITAL ASSETS, AND THE DISRUPTION OF LABOR

On April 27, 2018, the IDE will bring together leaders from industry, academia, public policy, and the media to explore and debate the impact and trajectory of technological innovation. The event will focus on the latest advancements and applications in the realm of the future of work, exploring themes such as the impact of machine learning on the workforce, good jobs and gigs, and what it means for investors.

“HACKING OUR DIGITAL FUTURE” ACTIVITY

How will advances in AI, machine learning, automation, and robotics impact the future of work? Will the safety of self-driving cars eliminate 90% of current accidents, and will their deployment further strain Medicare budgets, as more people live longer? Would the use of online political ballots breed political instability, Orwellian distrust of data, or more robust engagement of an electorate?

In January-February 2018, we invite students and other members of the MIT community to examine the unforeseen, unintended consequences—positive and negative—of these and other new aspects of the digital age.
As disruptive innovations create new industries and business models, old models die. Profound shifts are occurring in three key areas: Process, company, and industry. Many of the jobs of the near-future have not even been invented yet. During this unprecedented time of change, the IDE remains committed to crafting the new playbook that will help societies, organizations, and workers successfully navigate change and thrive in the Second Machine Age. With the generous support of our stakeholders, we will continue to drive global change and help ensure collective prosperity.

We invite you to connect, engage, and share ideas with other visionaries who are shaping the conversation about the digital economy and future of work.

David Verrill
Executive Director, IDE

THANK YOU

We extend our appreciation to the extremely generous support of individuals, foundations, and corporations.

Thanks to you, our insights and research are being increasingly shared around the world.

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