

Massachusetts Institute of Technology Engineering Systems Division

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Dear Ian,

I am pleased to submit the final report on the formation of a new Entity in the Areas of Complex and Socio-technical Systems, Information and Decision Systems, and Statistics. The final report comprises four reports covering the mission and scope of the new Entity, an evaluation of existing and future relevant academic programs, the future of statistics at MIT, and the proposed organizational structure of the new Entity. The recommendations from all of these reports are summarized in the Executive Summary.

All four committees were diligent in their deliberations and discussions in the past several months. I participated in all four committees and attended most of the meetings to make sure that each group remained aware of discussions and conclusions made by the others. In February, we had a meeting with the chairs of the committees to discuss the status of each group and to coordinate the efforts going forward.

At multiple stages of the process, other chairs and I made presentations to and solicited feedback from the ESD and the LIDS communities. I also made presentations to AA, MechE, EECS, CSAIL and the extended engineering council. Additionally, various committees interviewed groups and individuals not listed above. All such interviews are documented in the report.

I am excited to report that the final recommendations have received nearly unanimous endorsements from committee members. The attached table shows details committee members' support; almost all participants signed the Executive Summary. In addition to the signatures, I have received individual comments from several committee members about this new initiative. Here are some of the quotes:

Acemoglu: I could not have imagined at the beginning that the end product would be so compelling, balanced and promising of intellectual excitement. I hope that the institute will live up to it.

Magnanti: As reflected in this thoughtful report, the proper analysis, design and management of complex (engineered) systems is essential to society's prosperity and well-being. By complementing, building upon, and enhancing MIT's considerable existing strengths, the new Institute is a natural fit for MIT – bringing deep analytic thinking as well as current and new methodologies and insights to bear upon important societal issues.

De Weck: Very nice job on the executive summary; I am quite excited about this vision and definitely stand behind it and would like to engage in the future.

Christia: A note to send my fullest support for tomorrow's presentation. This entity is exactly what MIT should be about, and I hope the colleagues and administration all come to share your vision in this.

Pentland: Great draft. I was particularly pleased to see Connection Science as one of the hiring priorities.

Willcox: I feel very positively about our Mission & Scope committee report. This is an incredibly challenging task in many ways: trying to balance the pulls of applications vs. push of methodology, trying to bring together under one vision the very different research cultures of the three anchoring fields, and trying to articulate why all this is worth it (and different) for MIT.

Lo: I think that this document certainly reflects the totality of the discussions and perspectives that our committee has seen. Moreover, I think this document provides a very nice common ground from which each of us can explain our own nuanced versions in future meetings.

Lester: This is very well done. It's very important for MIT to be successful in this area, and you have mapped out a design that has good prospects of succeeding if it receives the necessary institutional support, which I believe it should.

Parrilo: I really think you have done a great job with this (particularly, given the almost impossible boundary conditions). I truly hope that the remaining roadblocks (particularly, the possible PhD program and the ORC connections) can also be ironed out. Hopefully, LIDS will come out much stronger (both institutionally and intellectually) as a result of this.

Chernozhukov: *This is a great development and I support it very much.*

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Thank you for giving me the opportunity to lead this effort. I am excited about the prospects this Entity brings to MIT.

Best Regards,

Munther Dahleh Acting Director, ESD

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http://dahleh.lids.mit.edu

Committee Member	Exec Summary	Mission	Academic	Statistics	Org Structure
Munther Dahleh	X	X	X	X	X
Daron Acemoglu	X	X			
Karen Wilcox	X	X	X		X
Fotini Christia	X	X	X	X	X
Dick Larson					
Richard Lester	X	X			
Andrew Lo	X	X	X	X	X
Sam Madden	X	X			
Pablo Parrilo	X	X			
Sandy Pentland	X	X			
Tom Magnanti	X		X		
Oli de Weck	X		X		
Saurabh Amin	X		X		
Steve Eppinger	X	X	X		X
Dan Hastings		X		X	
Chap Lawson	X	X	X		X
Eytan Modiano	X		X		
Dava Newman	X		X		
David Simchi-Levi	X	X	X	X	X
Asu Ozdaglar	X	X	X		
Emery Brown	X	X	X	X	X
David Gamarnik	X			X	
Victor Chernozhukov	X	X	X	X	X
Dan Frey	X	X	X	X	X
Tommi Jaakkola	X			X	
Sham Kakade	X			X	
Devavrat Shah	X	X		X	X
Scott Sheffield	X			X	
Mike Sipser				X	X
Roy Welsch	X			X	
Anantha Chandrakasan	X	X	X	X	X
Alan Willsky	X				X
Markus Buehler	X	X	X	X	X
Arup Chakraborty	X				X
Melissa Nobles	X				X
Jaime Peraire	X				X
Donna Savicki					X
Yossi Sheffi					
Victor Zue	X				X