



Amsterdam Event - Challenge Statement

Design/Fabrication Lab

Architecture, Engineering and Construction Industries (AEC) represent 13% of the global economy. As many sectors have seen explosive growth in productivity in recent decades due to efficiencies afforded by digital technologies, this sector has remained stagnant. It is tempting to fault AEC Industries for an anticompetitive or conservative stance that drove this resistance to technological progress. However, there are a multitude of factors that have inhibited an embrace, ranging from the risk-averse Finance, Insurance and Real Estate (FIRE) Industry that now govern construction to the fact that building a building is an incredibly complicated endeavor.

The construction of a building, however modest, requires a collaboration among sets of professionals and disciplines unparalleled in any other industry. Even the simplest structure requires communications and interactions across and among financiers, planners, architects, engineers, city agencies, fabricators, contractors, commissioning professionals, and ultimately occupants. Over the past twenty years, advances and major evolutions have occurred in workflows within each of the disciplines that make up the chain of interrelated activities that conspire to make a building, and ultimately a city. However, the disposition of those interrelationships, and the overall organization of allied AEC components remains a relatively static, arboreal structure of task allocation and information exchange.

A group of planners, architects, technologists, and public advocates, representatives of a nascent ecology of digital designers and fabricators from Amsterdam, gathered in San Francisco at Maker Media's Make Lab to discuss how their respective work and practices operate within the AEC Industry. All agreed that there is both an enormous obligation and an revolutionary opportunity for holistically re-thinking the industry, and that a Design/Fabrication Living Lab should be set up in Amsterdam to serve as an industry disruptor. The D/F Lab, as a space of collaborative and applied research, education and production, would organize a wide range of stakeholders to change the making of buildings and cities.

The team in San Francisco articulated 3 focuses where a D/F Lab must begin to affect change:

1. Present AEC workflows are still organized around disciplines and sequential phases of construction that were conceived of and used hundreds and even thousands of years ago. Can (or how might) a D/F Lab provide a platform upon which AEC can be examined, be made more self aware, and ultimately leverage technology to re-invent itself for the 21st century?
2. The AEC Industry's internal challenges and service to the FIRE industries over recent decades has caused its focus and obligations to shift away from society, culture, health safety and welfare, and the public good. How can a D/F Lab leverage emerging technologies to propose new modes of interrelation and involution, so that AEC not only begins to work on behalf of the public again, but also finds ways to collaborate with the public toward future buildings and cities?
3. Energy and environment. Every component of a building is an expenditure of energy, and has environmental impact. Can DF Lab re-think design, construction and fabrication toward buildings and cities with healthy metabolisms, and new productive relationships with the planet?

Our team outlined a business model framework of activities, markets, and stakeholders that would sustain D/F Laboratory by addressing these initial questions. This is a starting point. Our challenge for Amsterdam is now to take our first steps in realizing this framework and building a D/F Lab.

● one architecture



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