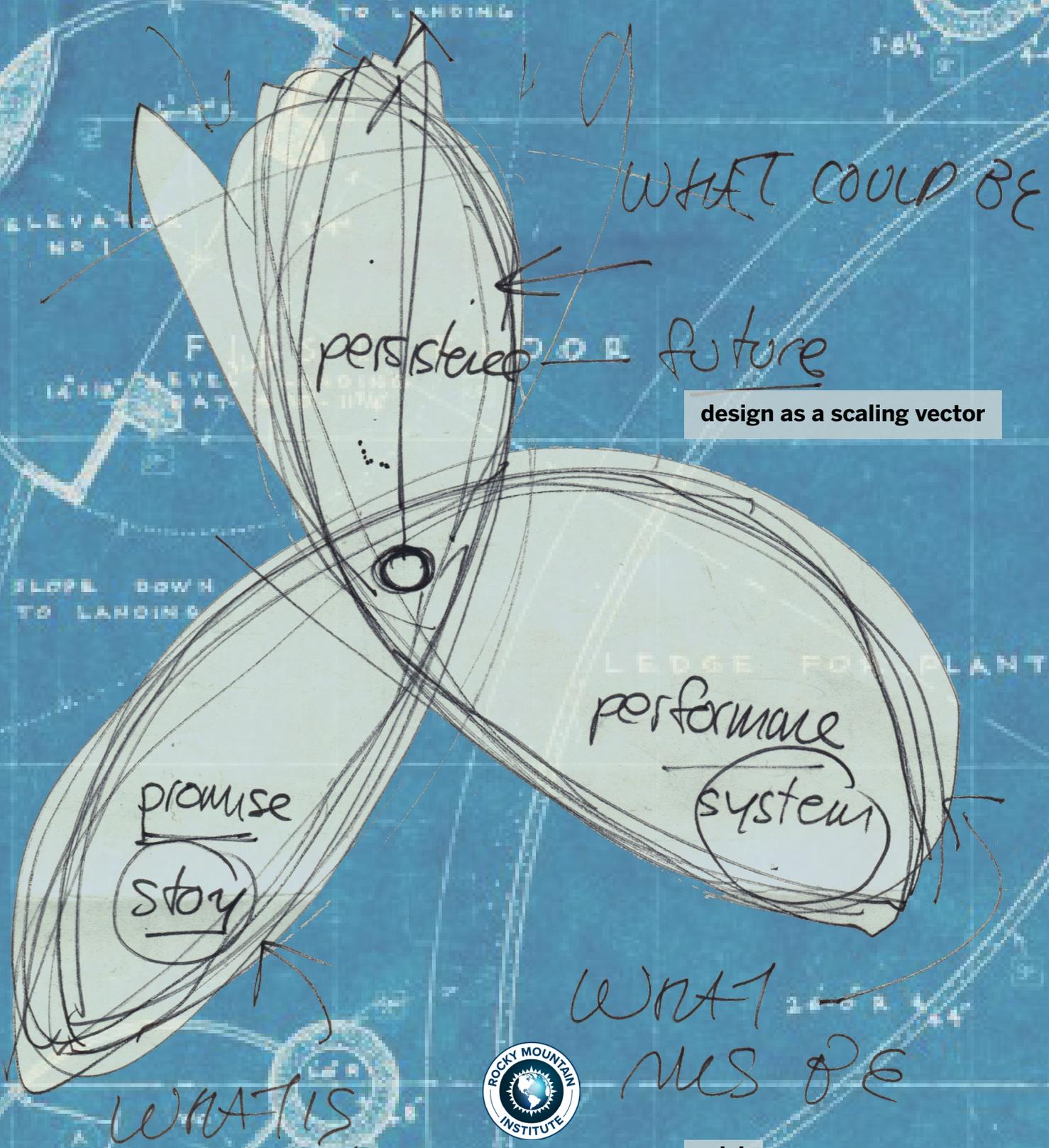


INTEGRATIVE DESIGN



JULY 2018

Hello Amory,

Inspired by our conversation several months ago, I have continued to think about what a *10xE | Integrative Design* project might look like: vision, mission, content, format and funding. Here are some updated notes.

Janet

* This document is formatted as an interactive pdf, so the links are live!

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BACKGROUND | MISSION | AUDIENCE

Factor 10 Engineering (10xE) is a systems approach for radical resource efficiency. Non-engineers may be more familiar with the term “integrative design,”

Efficiency’s impact is often underestimated because the technologies tend to be hidden from sight: in the walls as insulation, engineered into the wiring of LED bulbs, invisible in the molecular structure of smart windows, buried in the ground in heat pumps or even in embedded in financial models (e.g., blockchain)..

It is all the more remarkable to realize that since the 1980s efficiency gains in the US have kept as much as 200 ppm of carbon from entering the atmosphere, dramatically slowing climate change. By far, efficiency is the most effective way to slash reliance on fossil fuels, delivering more than 30x the impact of renewables. The best way to “keep it in the ground” is to start with efficiency.

Economic ramifications have been equally impressive. Today, primary energy use in the US is half of what was projected thirty years ago, even though more electronic devices are used than ever. Laptops, tablets, smart phones and the Internet weren’t part of the equation when those projections were made.

This savings—hundreds of billions of dollars over time—freed up capital that otherwise would have been spent on utility bills. This “found money” helped the American economy more than triple in size over this same period. Businesses had more money to invest in innovation, while consumers had more money to spend on...laptops, tablets and smartphones .

Also, since savings drop to the bottom line, companies that invested in efficiency have been better positioned to weather recessions. In fact, resource efficiency is essential to a thriving economy.

Integrative design is about efficiency at its most efficient, combining technologies that together deliver exponentially more benefit.

It is most popularly understood in terms of buildings and infrastructure, but the core principals of integrative design—whole systems thinking and intense multidisciplinary collaboration—generate similarly impressive results in the design of products, processes and services. Efficiencies in one area often lead to improvements in others, too. Good begets better.



The interplay of engineering and economics speaks to the need to include those in charge of budgets in the process—executives, consultants, managers and policymakers.

It is important to note that it took the vision and leadership of an executive, Ray Anderson, to re-imagine Interface, a fossil fuel-intensive carpet-tile business, into one that today develops products that can sequester carbon. The savings put the company in a stronger financial position, too, which inspired competitors to follow suit, transforming an entire industry.

The reboot of the 10xE / Integrative Design project focuses both on engineering challenges and management solutions.

Risk is analyzed as well. In a climate-changing world where extreme weather events and sea level rise present constant threats to infrastructure and supply chains, measuring benefits against business-as-usual baselines is no longer enough. Integrative design builds resiliency—a critical competitive advantage—so that must be taken into account, too. .

The power of integrative design is its bold statement about the possible: a more prosperous, equitable, abundant, healthy and altogether better world for decades to come.

The reboot is as much for next-generation professionals—college students studying engineering, architecture, business and government affairs—as for those working in the field today..

What was once a niche idea has reached critical mass, with years of data to analyze and compare thanks to standards pioneered by Passive House, Net Zero, LEED and Energy Star. The mission of this project is to help accelerate the scale up to mainstream.

FORM & CONTENT

Eight years ago, the first iteration of the 10xE project focused on case studies packaged as pdfs. [A handful are still posted on the RMI website](#). There is also a related [RMIQ video is available on YouTube](#). Although some of the material is dated, the bigger issue is that it's hard to find.

The project reboot is a significant expansion of the original concept, re-imagined as a multi-format publication (*Integrative Design*), a beautifully produced, special edition print magazine (12 to 18 month shelf life), paired with a robust digital back end via QR code, and aggressively marketed for “discoverability.”

The formats are the ones preferred by college students, a key audience. They don't want textbooks, or books in general. However, print is still popular in formats that are inexpensive and lightweight, such as workbooks and magazines.

In fact, multi-format [publications such as MIT's *Technology Review* are doubling down on print](#). The best answer isn't either/or but all-of-the-above. Print has the advantage for:

- contextual layouts (versus the digital long scroll)
- certain kinds of graphics
- novel, multi-media applications, e.g., [3D VR](#)
- promotional distribution
- off-grid consumption: no batteries, outlets or connectivity required



In addition to developing original content and leveraging RMI's vast archives, the *Integrative Design* publication includes extensive digital bibliographies on the back end: links to reports, articles, books, videos, conferences, trade publications, podcasts, etc. (Recently, contract furnishings conference NeoCon launched a podcast, [“NeoConversations,”](#) [posting an in-depth interview on the new Interface headquarters building.](#))

This is a big beat, one that requires an eclectic approach to cover projects of every size from all over the world. Sidebars accent case studies with additional insights on everything from financing to new materials.

Integrative Design can also function as low-cost, supplementary text. Digital content is continuously amended between updates without needing to change QR codes in the magazine.



CATEGORIES

Overview: Lays the groundwork on integrative design, its impact and its potential to scale.

Backgrounders: 400 to 800 word sidebars on renewables, financing, materials science, mobility, logistics, manufacturing and tech.

Case Studies: Construction, infrastructure, product design, manufacturing, mobility, distribution networks, lighting, microgrids, financing. Includes analysis of upstream / downstream impacts (energy demands, supply chains, etc.).

Circular Solutions: Sidebars on recycling (waste heat, CO2 capture, materials, and adjacent topics such as [regenerative agriculture](#)).

SPONSORS | PARTNERS | DISTRIBUTION

“[Native advertising](#)” involves journalists working with sponsors to produce editorial-quality content. Over the last few years, it has become a major revenue source for news organizations, including the *News York Times* and *The Atlantic*. In fact the *New York Times* opened a special marketing unit, [T Brand Studio](#), specifically for this kind of work.

For *Integrative Design*, native advertising transforms sponsors into partners. Each partner is provided a page in the magazine to tell their stories on how they have used integrative design in their buildings and businesses. QR codes link to additional digital content.

Partners distribute magazines to their staff and clients, and also facilitate distribution to public libraries.

Although primary distribution is through academic and professional networks, a news stands presence helps raise awareness.

The list of potential partners is broad and deep. In addition to the obvious—AEC companies from Autodesk to [Gensler](#)—it includes insurance companies (e.g., [Zurich](#)) and financial institutions.

There are also discounted and in-kind partners whose value is in their networks: non-profits, professional organizations, conferences and university programs.

NEXT STEPS

A short research phase—two to four weeks—to develop an editorial plan, a production time line, a project budget and a sponsor strategy. This includes becoming more familiar with all of RMI’s projects, editorial assets and fundraising initiatives and also researching potential media partners.

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