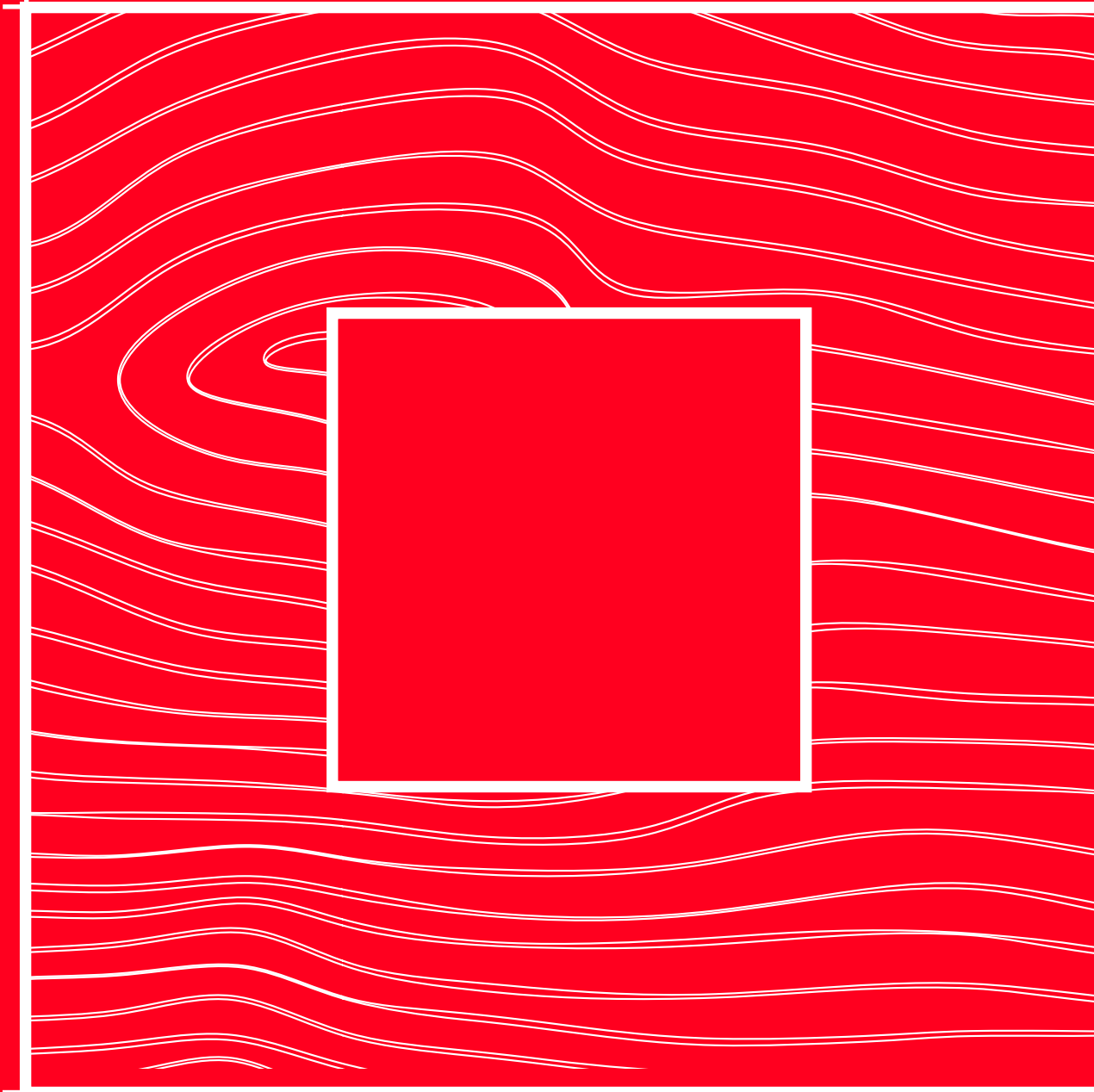
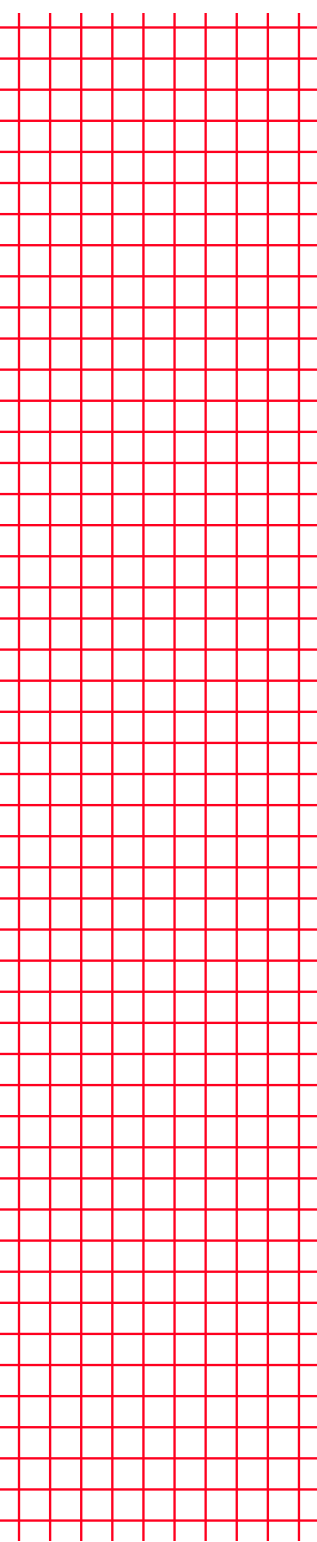


Mass Timber's Mass Appeal: Why Big Tech Fell in Love





The Great Romance

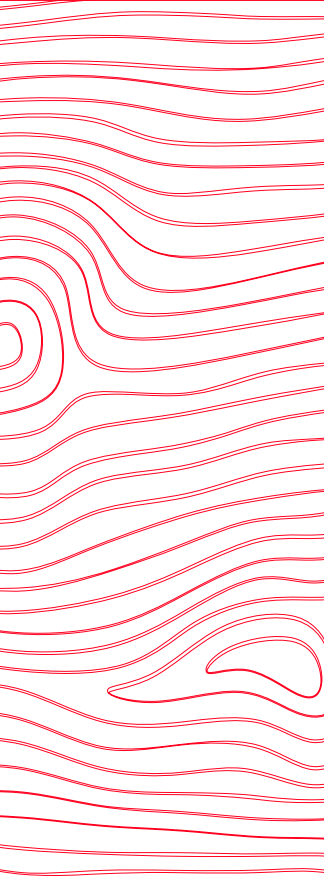
“Big Tech” packs a major punch in popular culture. The likes of Google and Microsoft have flipped modern life upside down, thanks to their vast and rapid advancements in, amongst other things, machine learning, eCommerce, and cloud computing.

But why are the 21st century’s most innovative companies choosing the world’s oldest material to build with? These giants of industry are pushing architectural boundaries with wood construction. A quick online search yields flabbergasting structures, all across America. Though not with concrete or steel. The biggest names in tech are working with Mass Timber.

This is a story of architectural ambition, ecological trailblazing and paradigm-shaking design. Big Tech has fallen in love with mass timber. The next 20 pages explore the reasons why, and how the results stand to influence what the rest of us build with in the future.

Ready?





[Mass timber buildings can] contribute to people's wellness. They're also beautiful, easy to assemble and strong enough to support dozens of stories."

Karim Khalifa,
Director of Buildings Innovation at Sidewalk Labs

Quote source: ["The Rise of The Timber Tower"](#), Canadian Real Estate



What Is Mass Timber?

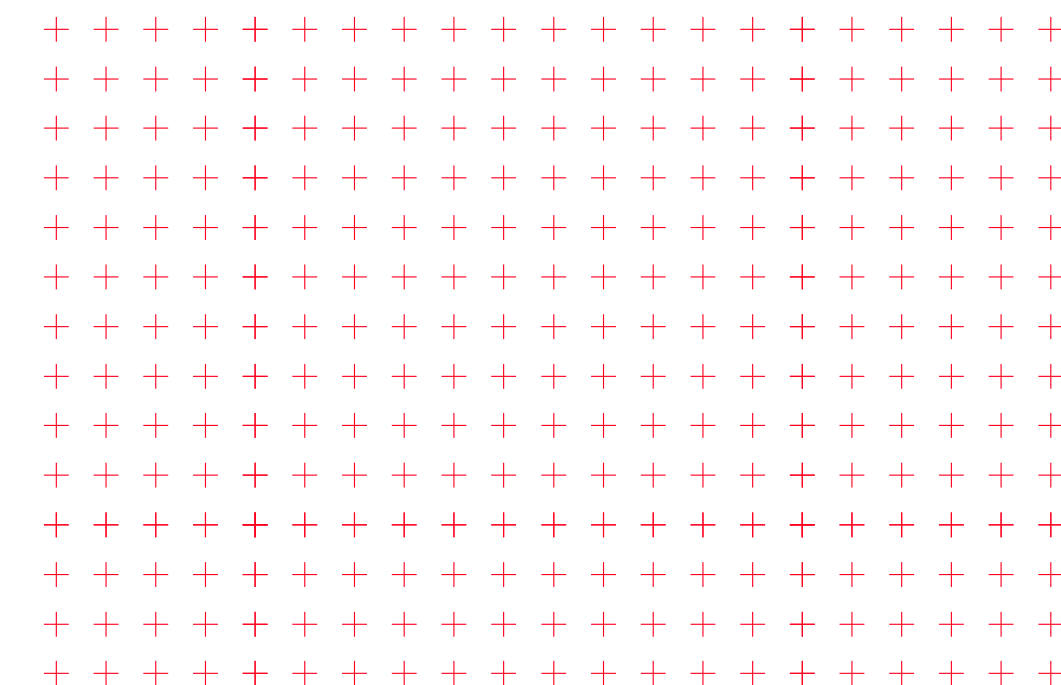
Big Tech spans a broad set of disciplines. But each of the following profiles faced similar needs: Visually arresting designs. Offices that fostered creativity and wellbeing. Buildings in tighter step with nature and, crucially, lower carbon design.

But why the common denominator? To truly grasp the answers, it pays to investigate what it is, and how it breaks convention. Short for “massive,” mass timber covers “engineered” timber products of all sizes and functions. It might be glue-laminated (glulam), nail-laminated (“NLT”), or dowel-laminated (“DLT”). But the most popular, cross-laminated (“CLT”), dominates the industry thanks to its vast potential.

You create CLT by gluing together multiple layers of solid-sawn lumbers into panels. The resulting layers of glued, perpendicular slabs give it immense structural rigidity. In fact, CLT’s resulting tensile and compressive strength can match that of concrete and steel!

And that’s not all. CLT panels protect well against extreme weather, make for lighter, more efficient construction (when prefabricated), and slash carbon emissions because they’re less energy intensive to produce, while also storing carbon.

Let’s explore one of the biggest drivers behind Big Tech’s preference for mass timber buildings: their sustainability.



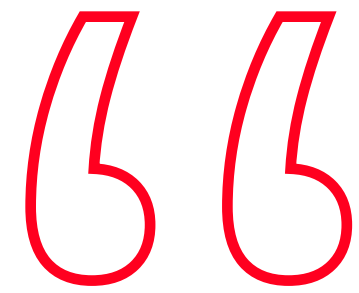


Microsoft's Mountain View Campus

Microsoft made headlines with its revamped Silicon Valley campus [SVC]. The software giant repurposed two original buildings with an all-encompassing, CLT structure built around a series of courtyards.

Housing 2,000 employees across 644,000 square feet, the campus invites sunlight and fresh air into its hive of work and social spaces—both indoor and out.

Microsoft's Mountain View Campus



Commitment to environmental sustainability has driven the redesign of our Silicon Valley campus, now underway.”

Katie Ross,
Global Real Estate & Facilities Sustainability Lead at Microsoft

Quote source: [“Cross-Laminated Timber: The Sustainable Choice of Microsoft Silicon Valley”](#)

The SVC represents one of the largest mass timber buildings in North America. And Microsoft and its partners chose CLT as part of its drive to achieve ambitious sustainability goals.

The end result remains impressive. The campus achieved LEED Platinum (a green building standard), Net Zero Water and Well Building Standard Certifications—in a visually stunning construction that saw 2,400 tons of CLT panels installed within six months.

Vital Statistics:



Silicon Valley, California



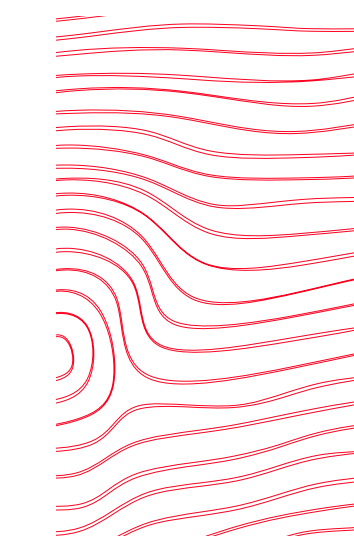
Achieved ambitious sustainability goals ‘LEED Platinum, Net Zero Water, Well Building certifications’



6,400 sq. ft floor space.



2,400 tons of mass timber panels installed within six months.



Greener, Leaner And Meaner: Combating Carbon With Mass Timber

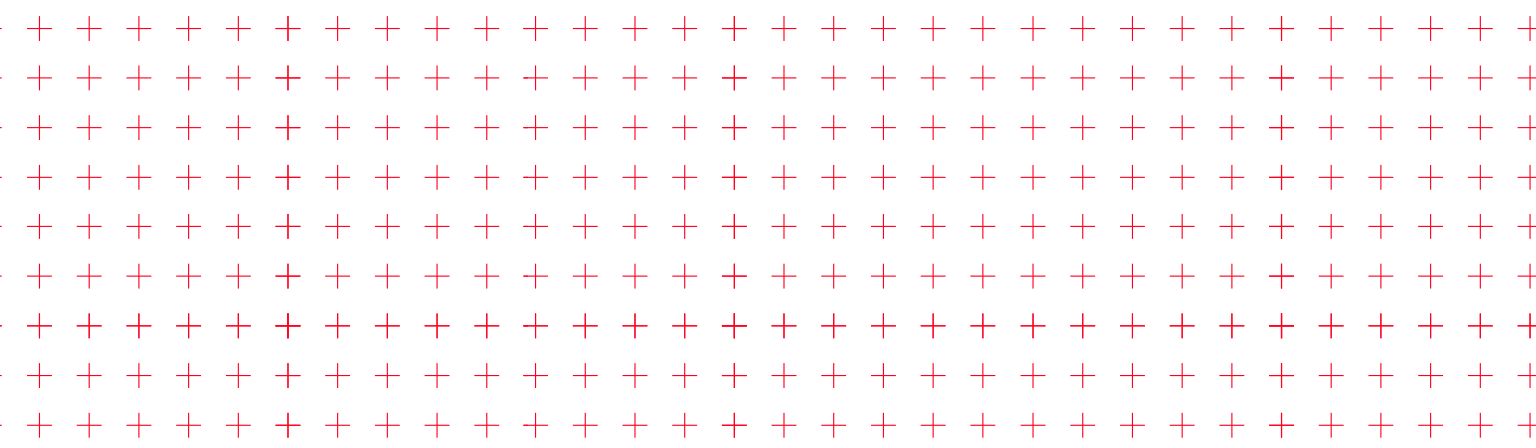
When it comes to green concerns, mass timber’s sustainability credentials seize the headlines. We live in a delicately poised environment. So it’s no surprise that Big Tech seeks out natural products in response.



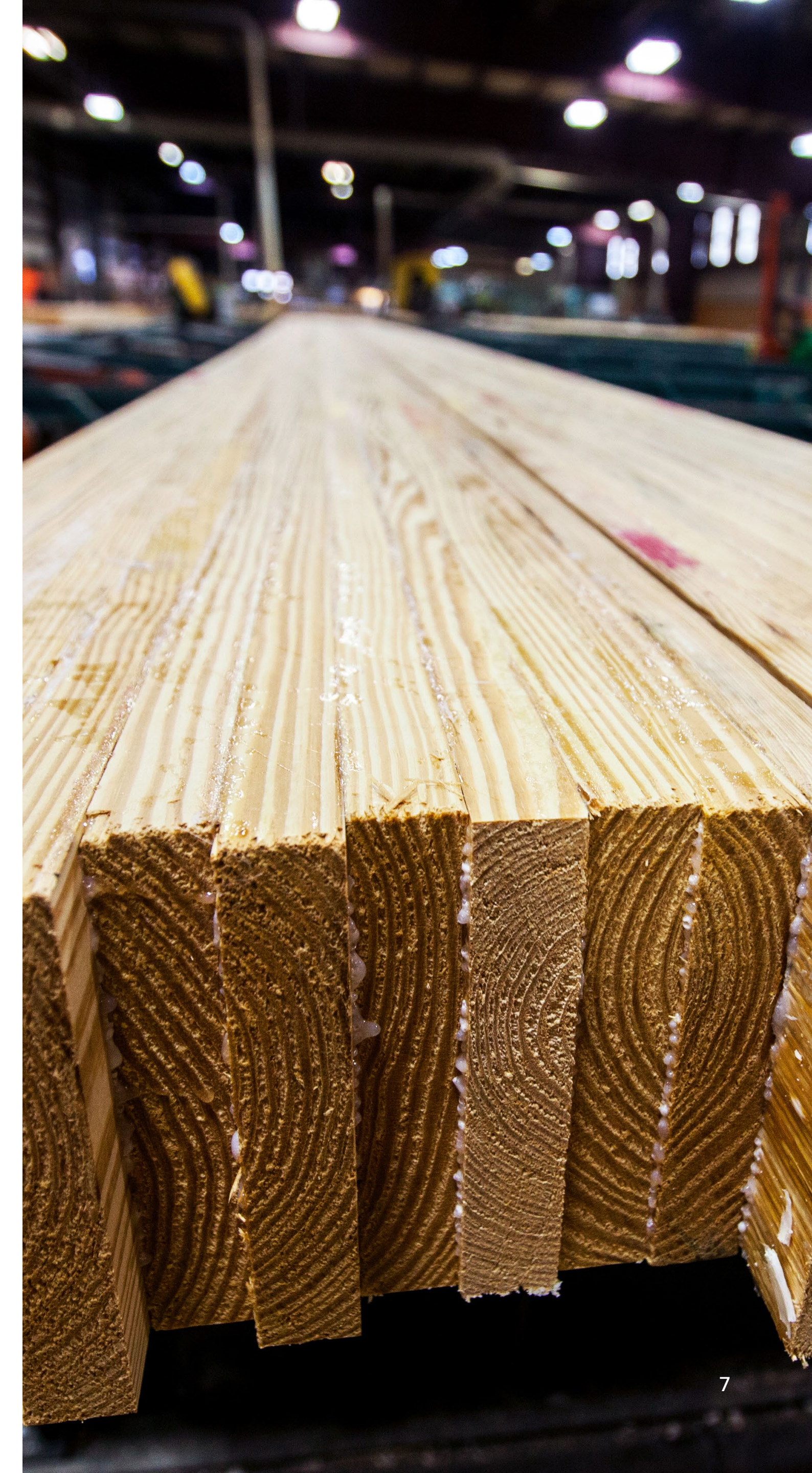
While we’ve made progress toward our goal of cutting our operational carbon emissions by 75 percent by 2030, the magnitude and speed of the world’s environmental changes have made it increasingly clear that we must do more. And we are taking new steps to do just that.”

Brad Smith,
Microsoft President and Chief Legal Officer

Sustainability targets remain pivotal for every structure commissioned. Because building solely with traditional materials poses ethical concerns that prove hard to ignore. Compared to timber, steel and concrete release far more Co2 into the atmosphere: contributing to five percent of global carbon emissions annually. Exclusively steel and concrete buildings present significant emission profiles: as much as 2000 metric tons of carbon dioxide.



Quote source: [“We’re Increasing Our Carbon Fee as We Double Down on Sustainability”](#)



Greener, Leaner And Meaner: Combating Carbon With Mass Timber



Wood-based structures tackle this issue. Responsibly sourced wood comes from sustainable sources. Bodies like the Sustainable Forestry Initiative and Forest Stewardship Council, offer clear lists of what doesn't make the list:

- Wood harvested in violation of traditional and human rights
- Wood from forests in which high conservation values are threatened by management activities
- Wood from forests being converted to plantations and other non-forest uses
- Wood from forests in which genetically modified trees are planted

Responsibly sourced SFI, FSC and PEFC-approved wood products tell a more encouraging story. By leading with carefully sourced mass timber components over carbon-heavy materials, Microsoft and others succeeded in keeping their emissions lower.

**Quicker.
Customized.
Comforting.**

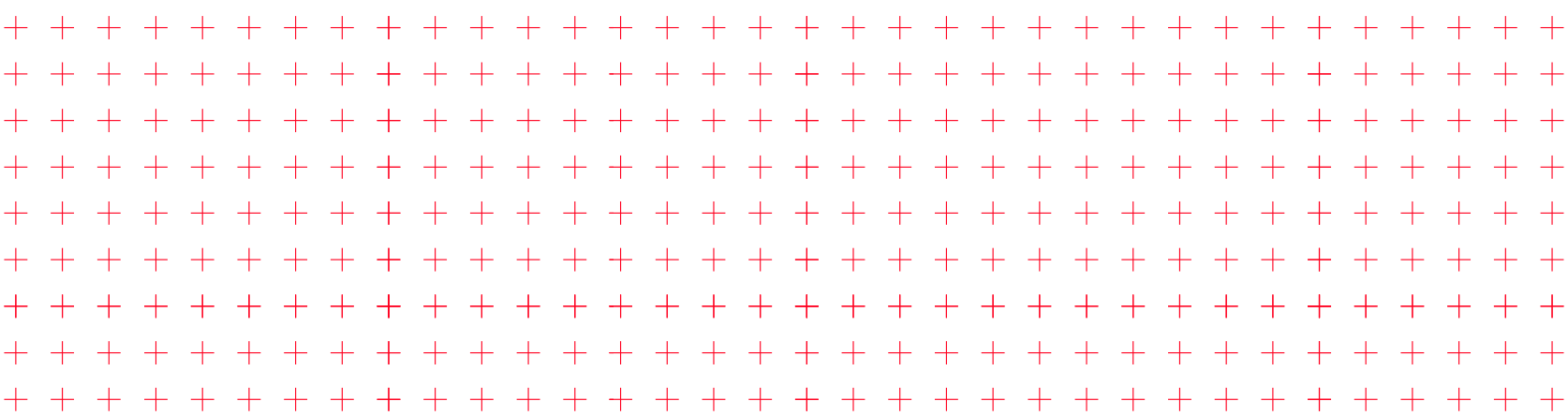
**Quicker.
Customized.
Comforting.**



We are striving to attract and retain the best talent in order to win the future of retail and the key component of that is the work environment that we are creating.”

Dan Bartlett,
Executive Vice-President, Corporate Affairs, Walmart

Quote source: pymnts.com

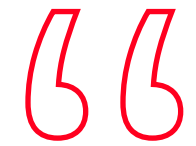


Cross-laminated timber remains a key player in mass timber. It boasts a wide range of construction briefs, and its broad suitability matches its flexibility as a material. You can make it thicker by adding more layers, and longer by joining its panels together.

Furthermore, its ability to arrive prefabricated on-site reduces building time: Microsoft slashed thousands of hours (and dollars) in construction resources by on-site assembly. Walmart has followed a similar path.

And mass timber’s advantages go beyond design flexibility, it provides a visually appealing differentiator that leaves its inhabitants relaxed; especially important for work cultures reliant on fostering creativity. Only now are wood’s biophilic benefits being fully exploited. In environments that foster innovation, office spaces themselves must stand up to scrutiny. The more natural light, space and warmth in the design, the greater the sense of wellbeing.

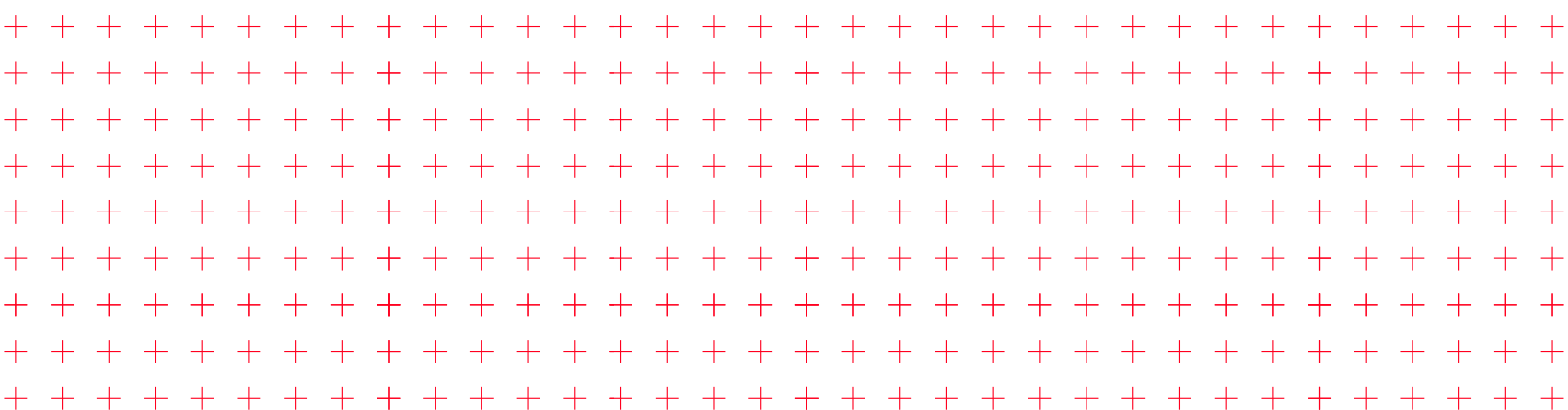
**Quicker.
Customized.
Comforting.**



We found that participants in biophilic indoor environments had consistently better recovery responses after stress or compared to those in the non-biophilic environment, in terms of reduction of stress and anxiety.”

Jie Yin et al, “Effects of biophilic indoor environment on stress and anxiety recovery: A between-subjects experiment in virtual reality”.

Quote source: [Environment International](#)



So too increased acoustic performance. Unwanted noise can hinder concentration—and mass timber rectifies this. In mass timber structures, sound transferred between floors and walls decreases substantially. Wood materials can offer a tangible, psychological advantage over their counterparts.





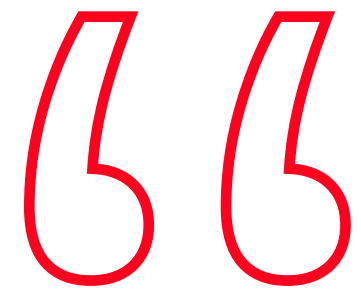
Walmart's HQ in Bentonville, Arkansas

Many people associate Walmart with its original role: a retail corporation. But in recent years, the company's proprietary technologies have become central to its business strategy.

Walmart mirrors Amazon in selling its eCommerce technology to small and medium businesses. Amongst other features, its cloud-powered checkout system, retail media operations and Adobe Commerce partnerships have led to impressive growth.

Its new headquarters will use 1.1 million cubic feet (around 11 olympic-sized swimming pools) of regionally sourced, cross-laminated timber. As with Microsoft's campus, the Bentonville project showcases captivating, open concept spaces with high ceilings and plenty of natural light.

Walmart's HQ in Bentonville, Arkansas



The New Home Office will be built with a thoroughly modern and innovative material ...wood. When thinking of modern construction materials, wood might not be the first thing that comes to mind. But mass timber is different. Designed with precision specifications and engineered to strict performance standards, mass timber products provide a modern approach to traditional designs.”

Dan Bartlett,
Executive Vice President, Corporate Affairs, Walmart

Quote source: "Vision For A Sustainable World", William McDonough + Partners

Vital Statistics:



Bentonville, Arkansas



350 acres of office space



12+ office and amenity buildings



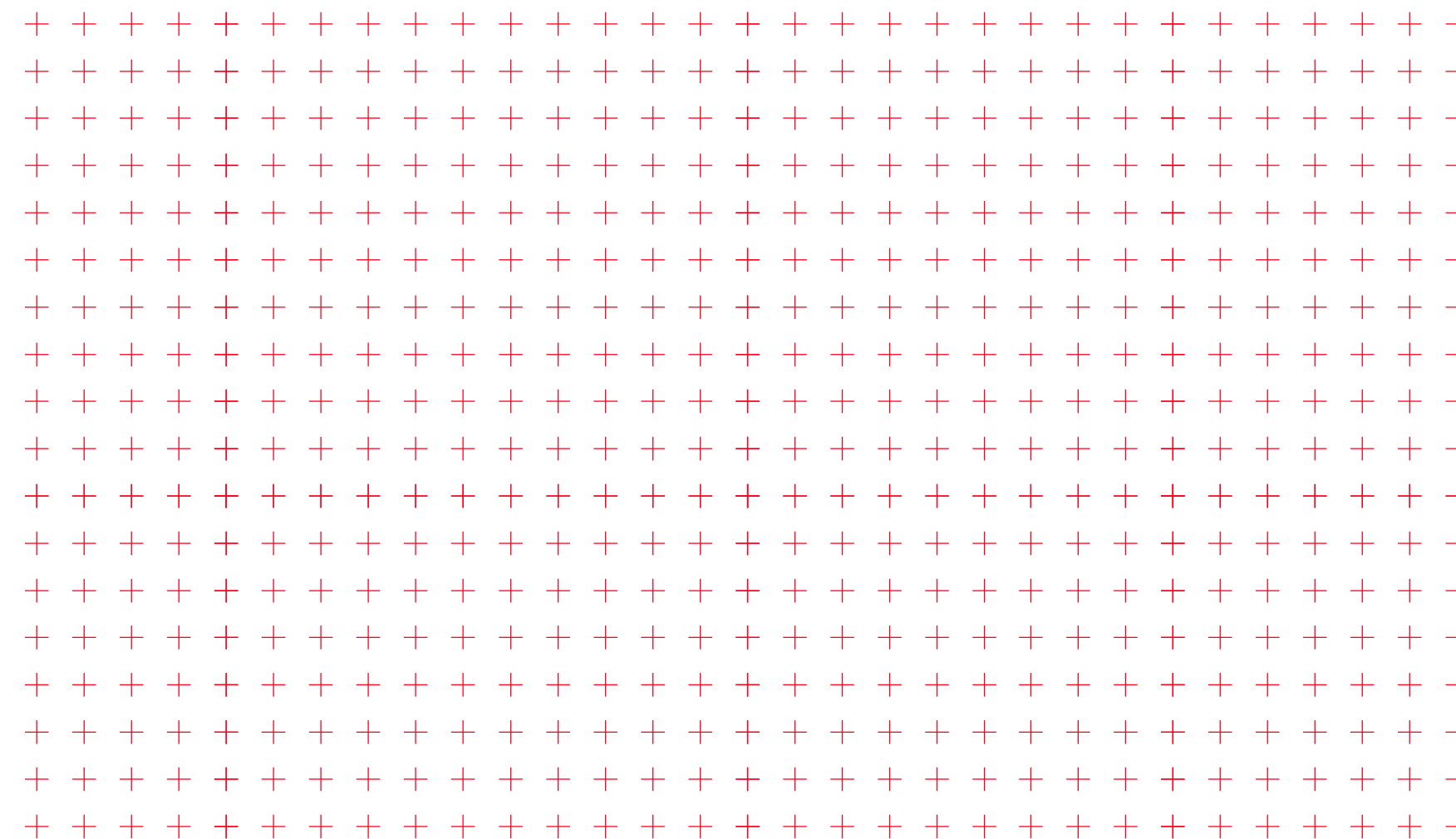
2.4 million square feet of office space



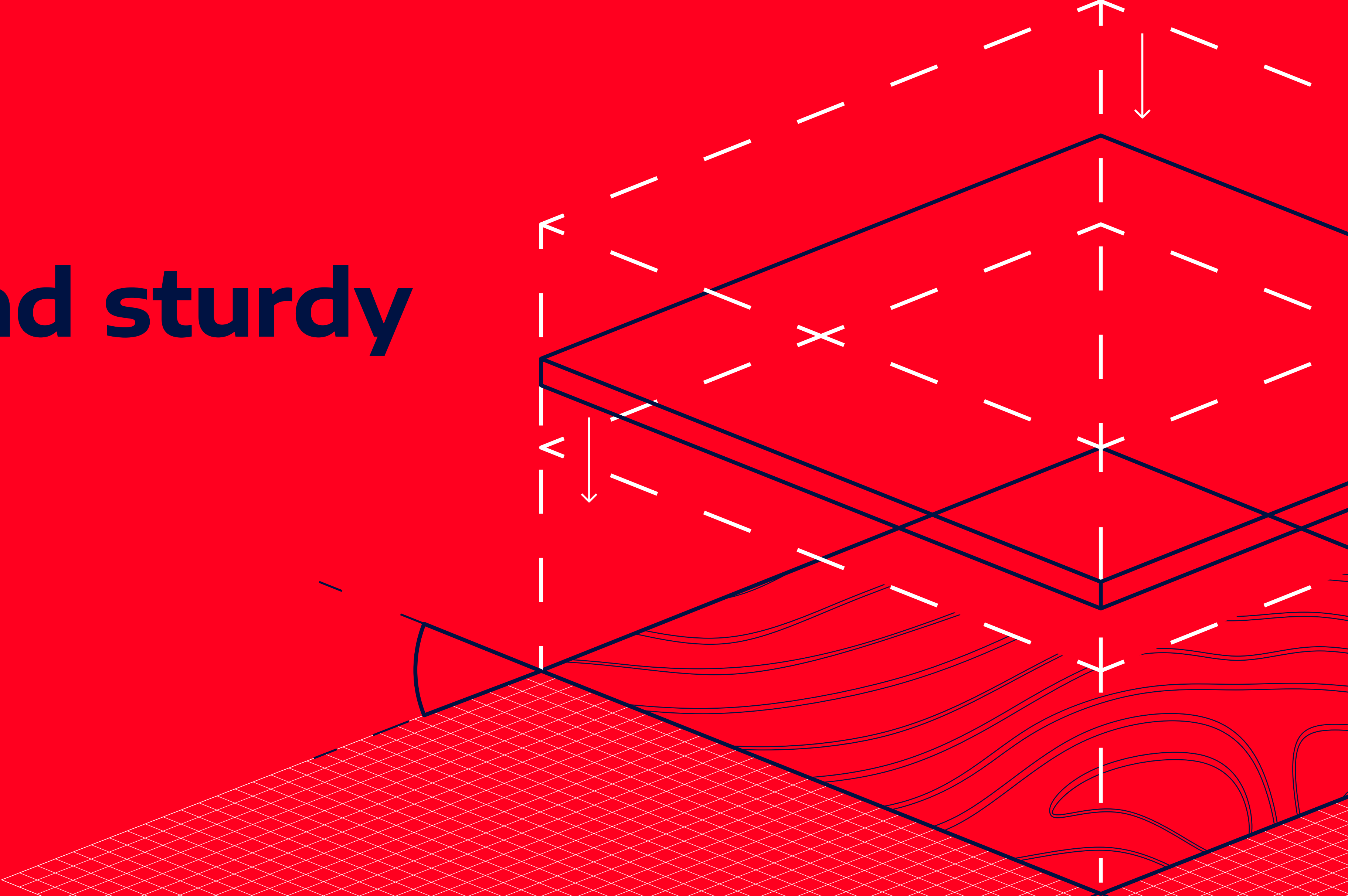
1.7 million square feet of timber



Sustainability goals focused toward creating zero waste
100% renewable energy



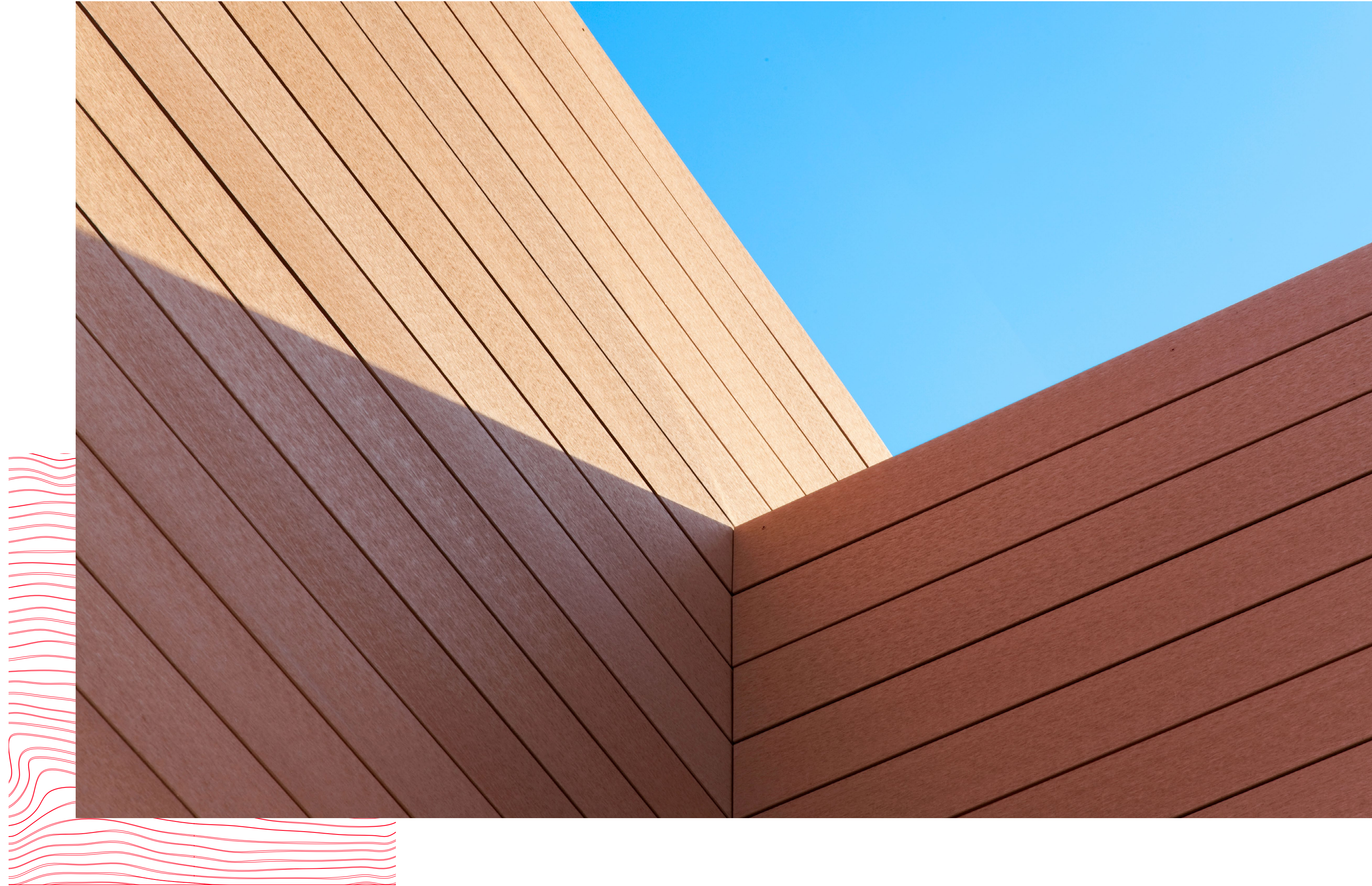
Safe and sturdy



Safe and study

Mass timber buildings excel in strength, flexibility and precision. They also excel in safety.

When the Mass Timber Code coalition ran fire resistance tests of a 5-ply CLT panel, it exceeded three hours under duress. By comparison, standardized building codes require a two-hour rating.



Safe and study

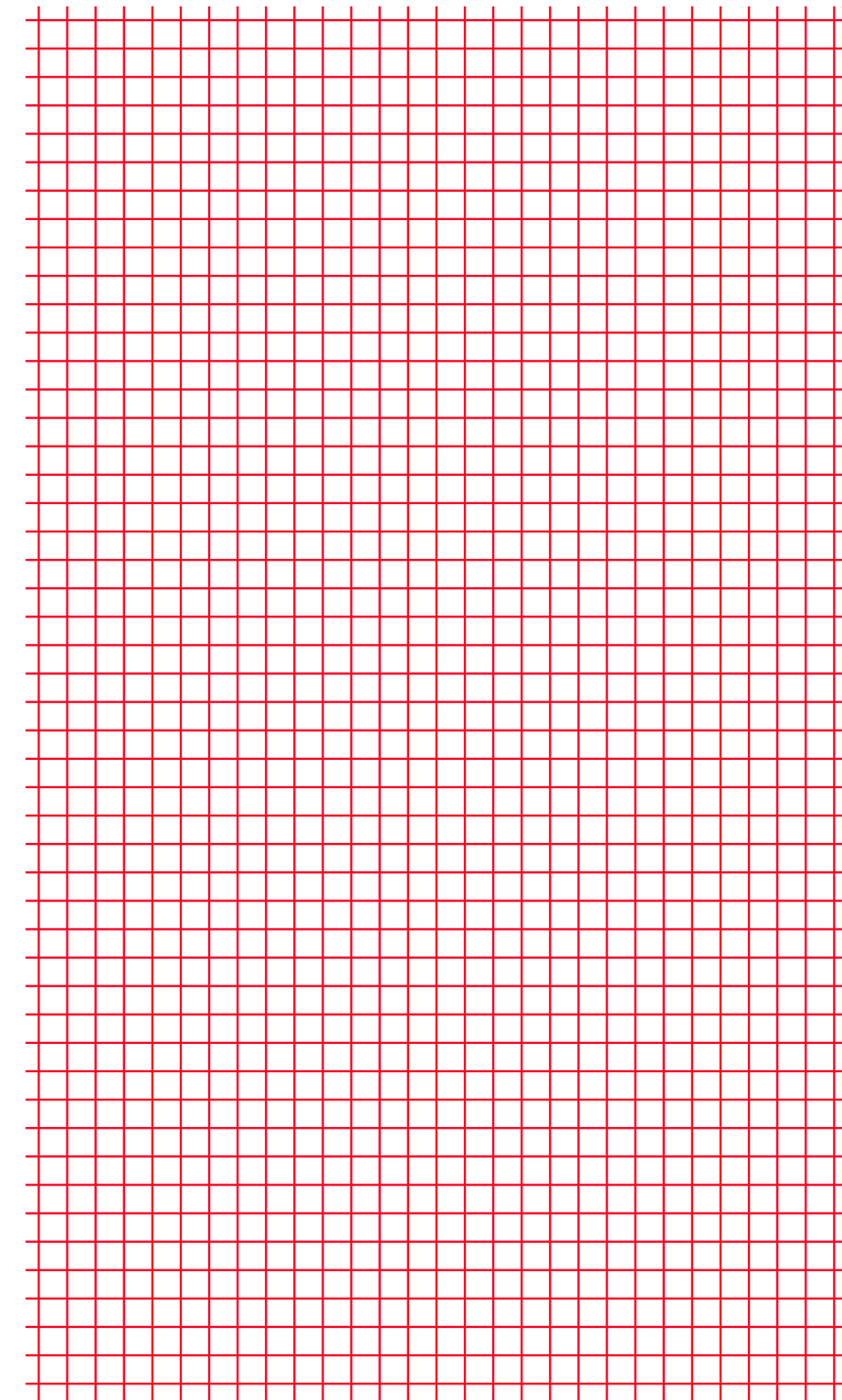


Mass timber is thick. It burns slowly and predictably, and commonly puts itself out. It can be engineered to last through a fire, with designs to have it last two or three hours so people can get out and the fire can be extinguished.”

Mark Rudnicki, Ph.D., Professor of Practice for Forest Biomaterials
at Michigan Technological University

Quote source: [“Is Mass Timber The Path To Sustainable Construction?”](#), Forbes

Authorities with the power to update codes acknowledge these changing times. The 2021 International Building Code (IBC) introduced a range of new construction types for fire-resistance-rated structures—the first in decades—opened a new chapter for mass timber’s potential. Subsequently, Big Tech developers and beyond can not only build bolder, but taller: as high as 18 storeys.





Completion 2024

Google Caribbean Drive / Sunnyvale Campus

Google's parent company, Alphabet Inc, has also commissioned millions of dollars for a new, mass-timber-based venture.

Its office building in Sunnyvale, California, will comprise two five storey buildings across 182,500 square feet. Expect green-roofed buildings with long, sloping terraces providing access to each floor.



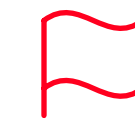
Vital Statistics:



2 x mass timber (CLT, glulam) structures serving 4,500+ Google staff

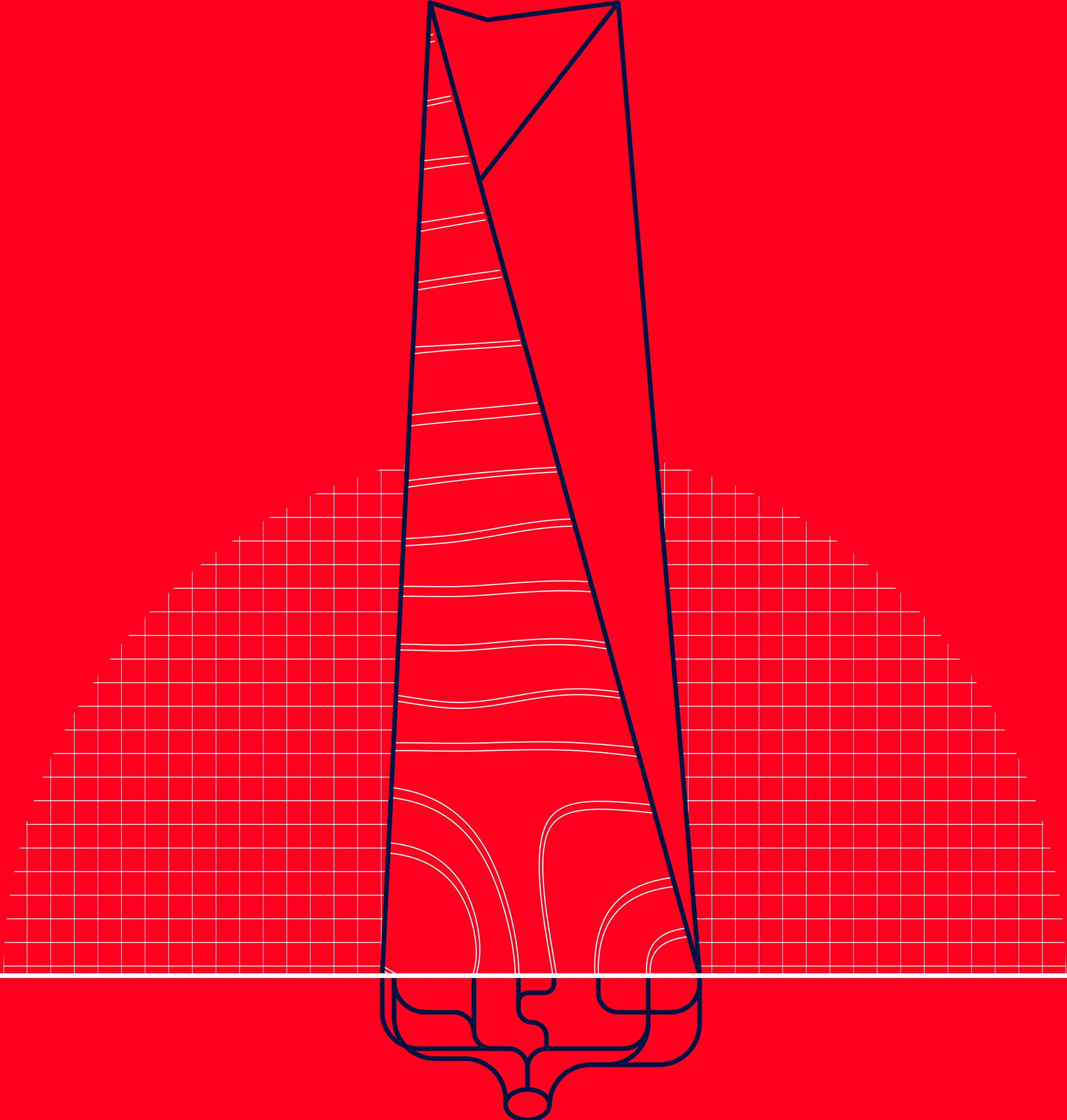


Slated for LEED Gold with a focus on energy efficiency and minimized water usage



Named Caribbean due to its Caribbean Drive location (an area in Sunnyvale, California)

Strong Foundations, Bright Future



Big Tech continues to bolster collective knowledge, influence lifestyles and dominate debate. And its endorsement of mass timber mirrors these realities. Building with wood solves numerous challenges.

As we've seen, the likes of Google choose it not just to have their structures stand out visually, but for faster, more efficient and environmentally-responsible construction. Mass timber elevates its inhabitants' wellbeing. It proves just as safe, if not safer, than other materials in terms of fire resistance. And—crucially—its preference cuts carbon emissions dramatically at a time when society needs greener planning more than ever.

Unlike its contemporaries, engineered wood building still has room for growth: each new mass timber project represents an additional step toward greater standardization. Big Tech's love affair with mass timber continues. Expect more incredible buildings in the future.

To learn about Canfor's foundational role in the future of mass timber, why not message us directly?

info@canfor.com or visit **canfor.com**

