

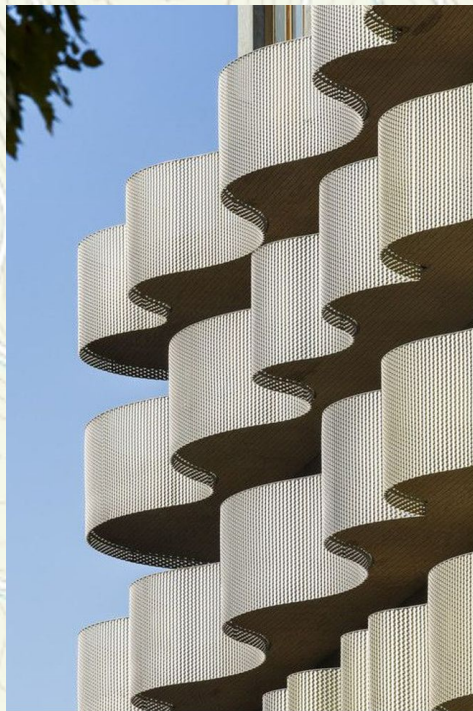
# Steelcase Karmann

Steelcase®

# Go Beyond

Steelcase Karman

Steelcase®



## BOUNDLESS POSSIBILITIES

Meanders in a river, clouds above our heads and even leaves on the trees are organic forms that exist in nature. Inspired by these fluid forms of the Earth, Karman's seat and back are equipped with an organic flexibility that harmonizes with the movement in the lower frame of the chair, influenced by the dynamic motions of the human body.

When you're experiencing Karman, it mimics your movement like it was made just for you.

# Discover + Define





Karman is the evolution of everything we know about seating.  
There's DNA from every single one of our chairs built into Karman.

**Mark Spoelhof, Steelcase Global Design Director**



## Gesture

2013

Steelcase Design Group

Through our Global Posture Study, we observed over 2,000 people on six continents in a wide range of postures. Through this study, we discovered nine new postures that were not adequately addressed by current seating solutions — until Gesture came about. Gesture explores the full range of postures of the human body in three key sections: the core, upper limb and the seat.





## Less than Five Chair

2016

Coalesse Design Group +  
Michael Young

Handcrafted from carbon fiber. Surprisingly light. Exceptionally strong. Weighing less than five pounds. At its core are thousands of tiny fibers, woven together into a fabric of unrivaled strength and lightness that enables us to push the boundaries of engineering and design.





## **Carbon Fibre Silq Chair**

2017

Advances in carbon fiber technology paved the way for Steelcase's material scientists to develop a new type of polymer that mimics extremely durable, lightweight carbon material at more commercial price points. The way Silq responds to a person's posture and stature is unique to each user because of the way the materiality, design and motion of the human body come together.



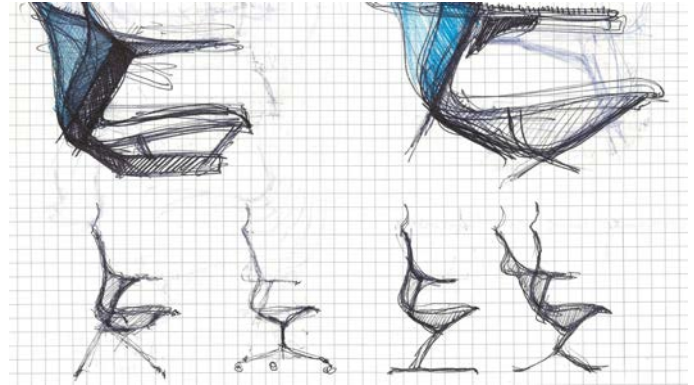


## Silq

2018

Steelcase Design Studio

Drawing inspiration from works of aerospace engineering, the motion of a high-performance prosthetic leg and sculpture, among other things, we took our time to understand how the combination of advanced materials and shape could create a simple system that is incredibly thin, extremely strong and highly responsive to the user.





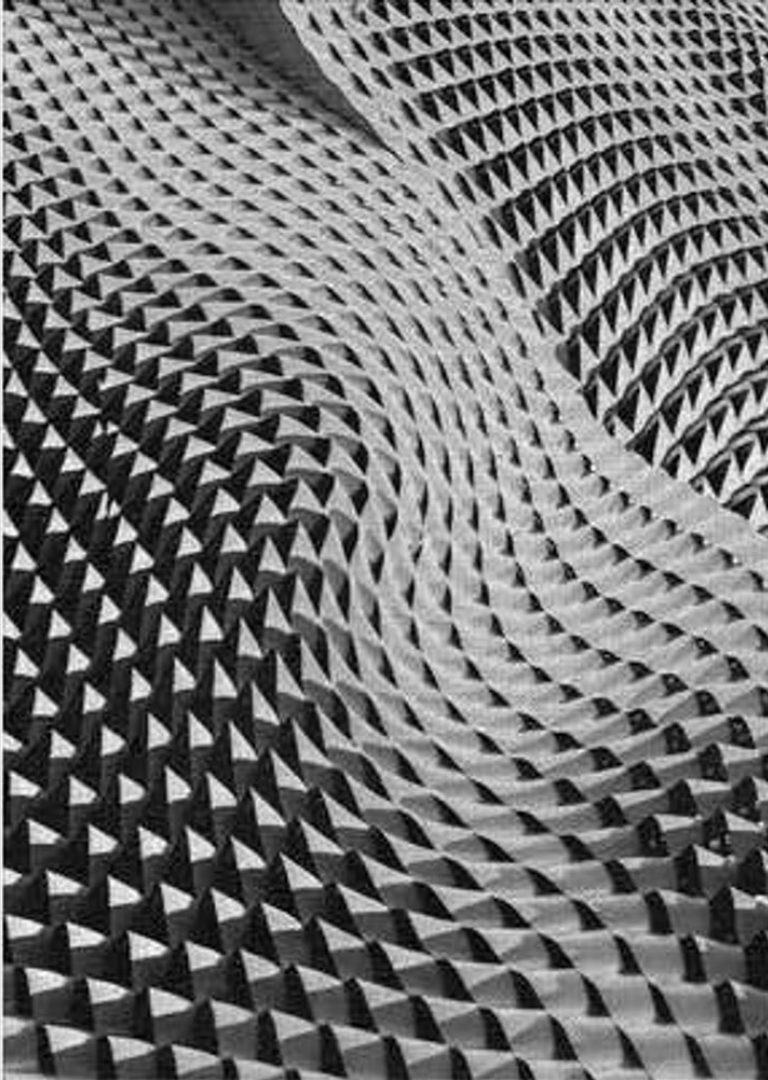


We use shape, material and geometry to put motion into the chair shell.  
The Chair is designed to respond to you.

**Mark Spoelhof, Steelcase Global Design Director**

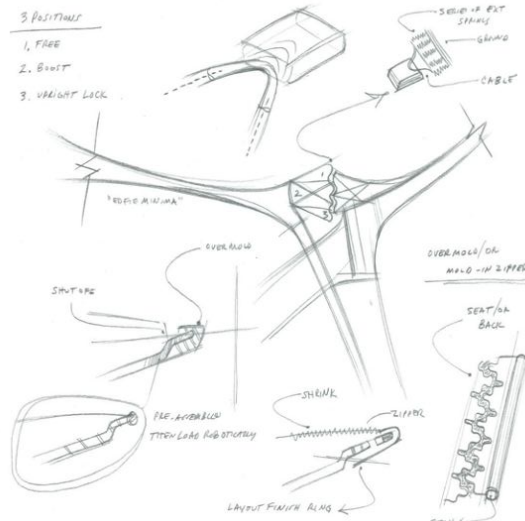
# Develop





## FORM

Instead of a rigid frame that's used in most mesh chairs, Karman is the culmination of all-new performance textile with integrated cushioning. It is a one-of-a-kind hybrid seat that is innovated with a systemic design approach.

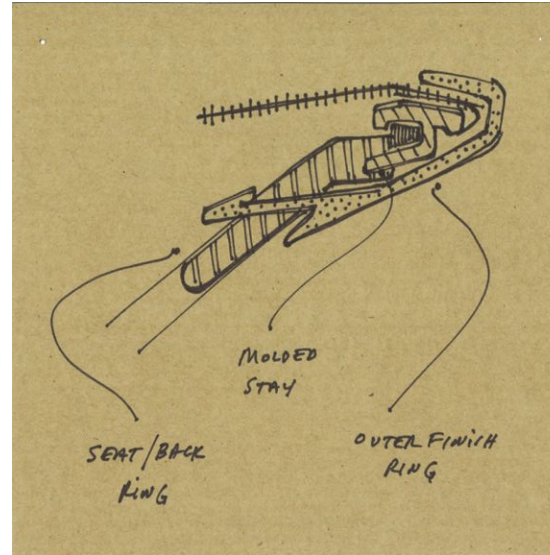


## UNIQUE SYSTEM

The patented hybrid seat combines the suspension seat with an integrated pressure absorber to provide maximum comfort.

It is incredibly difficult to create a single seat shroud that can be tooled and manufactured at scale. This component shows the iterative design of the shroud how two components slide together.

The textile is suspended from an ultra-light frame that flexes so it eliminates painful pressure points and puts less pressure on people's backs and seats. The passive seat edge angle allows the front edge of the seat to flex up to 38.1mm (1-1/2"), comfortably relieving pressure behind the thighs, enabling better blood circulation to the user's legs and feet.





## INTERMIX

Karman features a new proprietary performance textile called Intermix, which uses Shrinx Technology. This weaving process incorporates plastic yarns and filaments together in a unique performance that never droops or feels stiff to the touch.

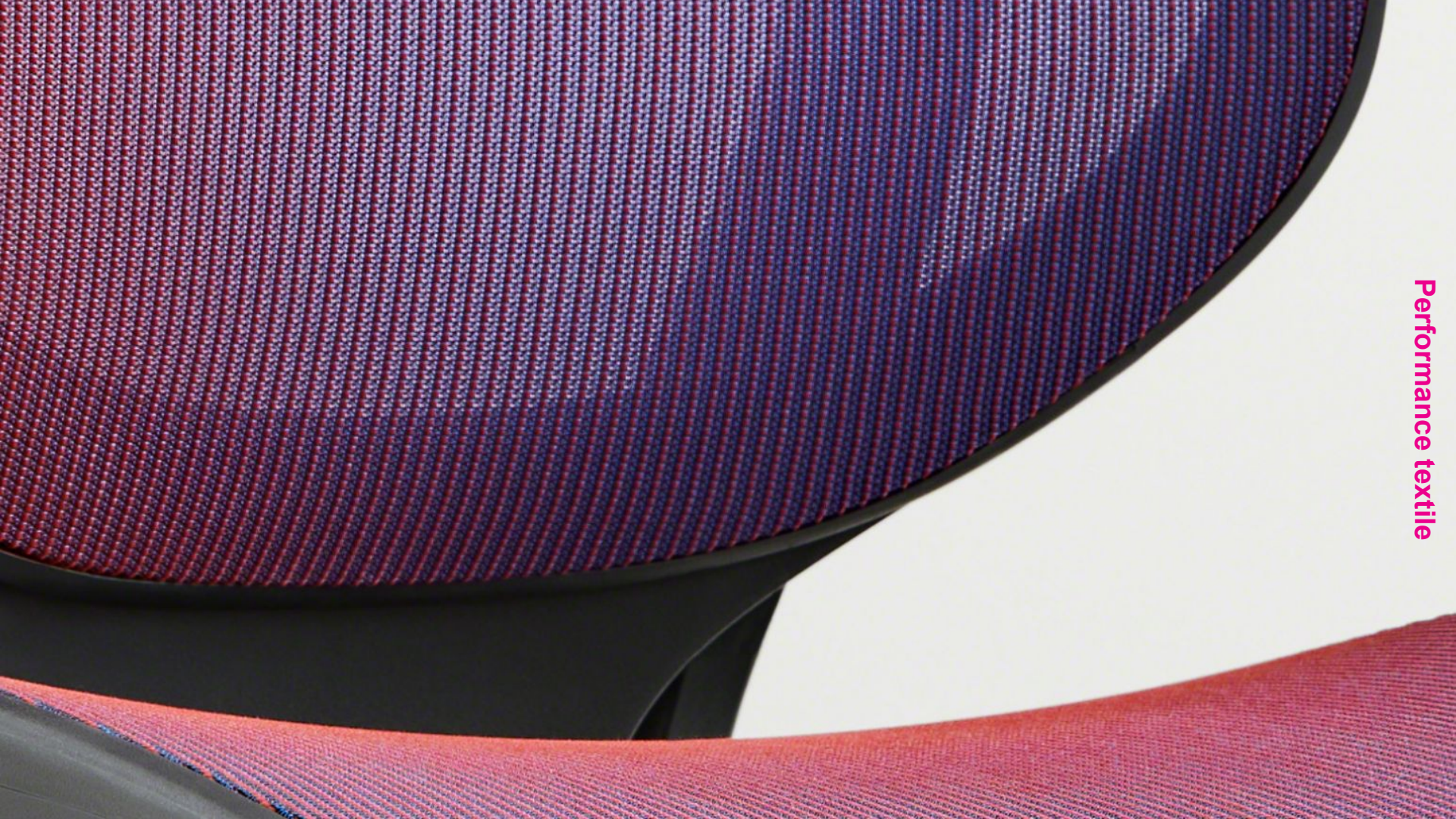
Intermix has a beautiful touch that feels comfortable and smooth. The filaments can be spaced close together to create a unique opaque textile, or further apart to create a transparent and traditional mesh look.

A multi-colour weave, inspired by athletic performance wear, creates the appearance of a dynamic colour shift from different angles to truly express the dynamism of Karman.





Performance textile



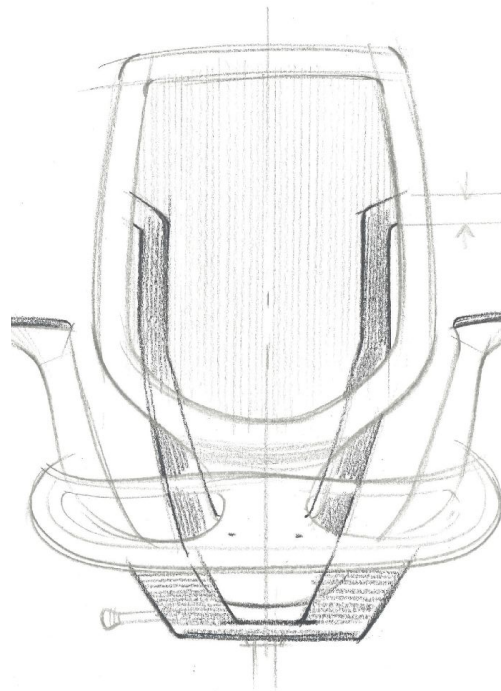




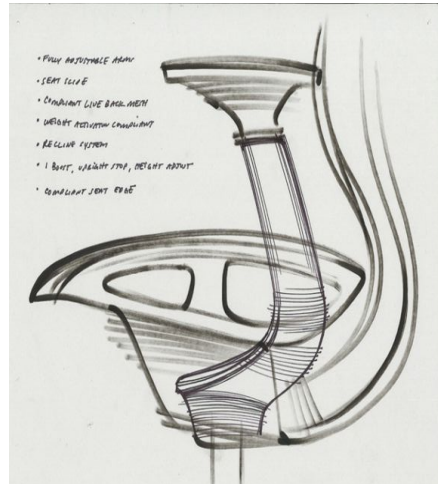
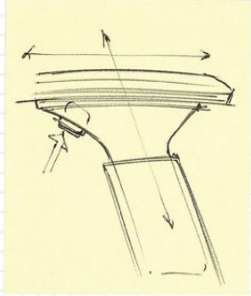
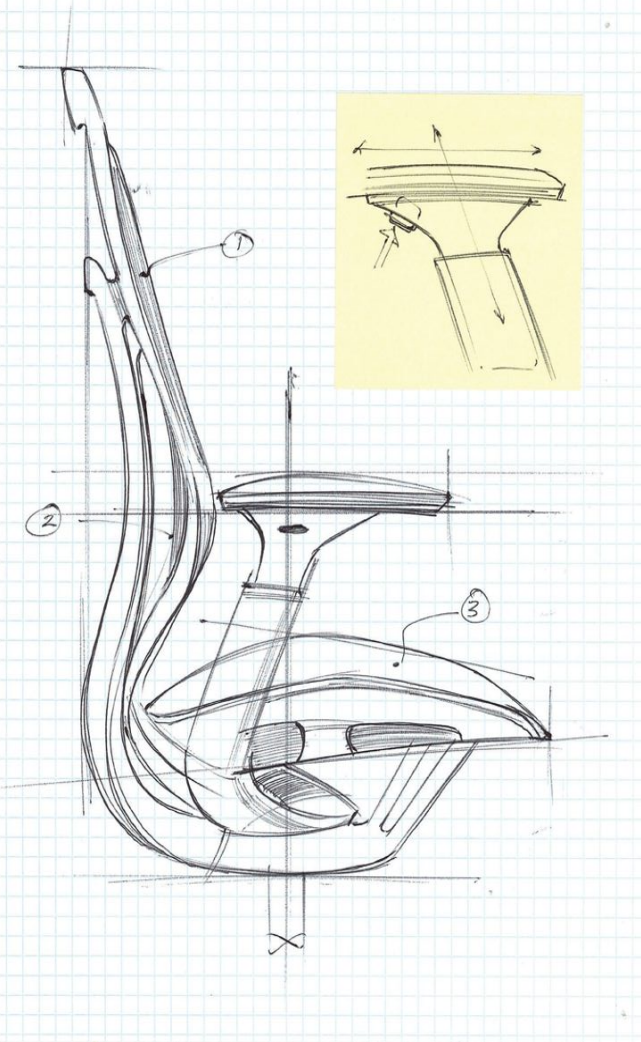
## PRECISION

The Integrated Cradle of the Karman Chair takes inspiration from the airplane design.

The arm-pad was reshaped several times. Rapid prototyping was done by hand molding and 3D printed parts.



# Cradle and arms



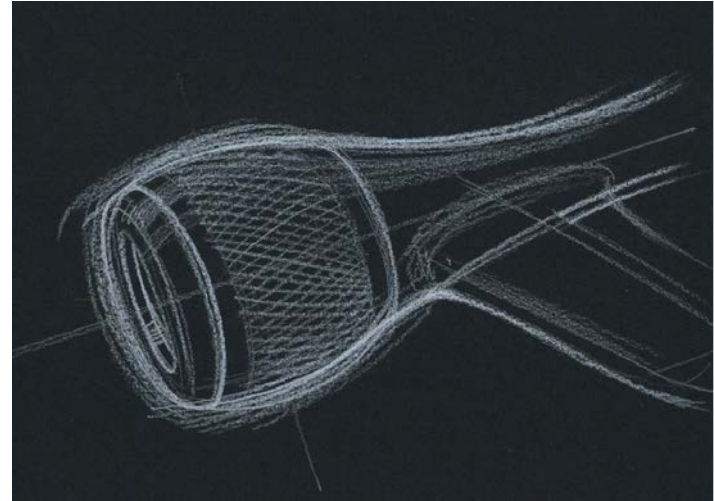
## Cradle and arms





## TOUCH POINTS

The human body is never still. When people are working, they are constantly making micro-movements. The Karman Adjustment Gear is shaped to lead the user, with micro-etching on the dial and luxurious detailing.





## Adjustment Dial





Karman Artefacts

# Early Silq prototypes 2017

Prototype





Prototype



Karman Artefacts

# Prototype 2019

## Adding Liveback and Silq

The first-ever Karman physical model was created with a combination of 3D printed parts and modified Silq components.



Prototype

Karman Artefacts

# Prototype 2019

Further refinement of the back design (you can see the signature loop)



Prototype

Karman Artefacts

# Final signed off design

## 3D printed models

2021

The final design model was created before tooling kicked off. Interestingly, all components were 3D printed.

This is a prototype of the Opaque Intermix.



Prototype

Karman Artefacts

# First off tooled chair

With Intermix – red-blue shift  
included

2019 – 2022

The first validation and fitting of all  
parts and geometries.

"Keep this Original"  
Post-it by Nate Brock –  
Designer, Mechanical for  
Steelcase Seating Product Engineering  
| Untextured components



Prototype



# Deliver

## Comfort Features



Patented Hybrid Seat



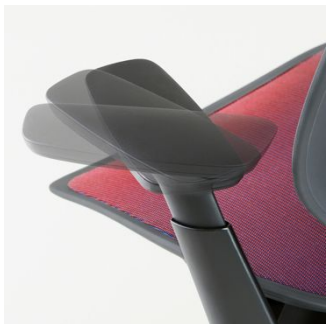
Organic Movement



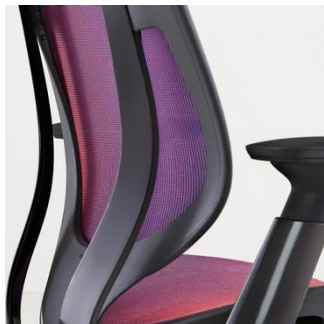
Comfort Edge



Comfort Dial



4D Arm



LiveBack



Lumbar Support













# Sustainability





## RESPONSIBLE DESIGN

Designed with the planet in mind, Steelcase Karman uses sustainable materials and the least number of components necessary. It weighs only 29 pounds, yet is incredibly strong. By using minimal resources Steelcase Karman reduces its impact on the earth delivering a holistic approach to sustainability while supporting our carbon commitments.





## RECYCLED AND RECYCLABLE

More Than Just 'Posturing:' New Perch Stool Designed for Circularity, is turning computer production waste into recyclable stools that play a key role in hybrid work

The Steelcase Flex Perch Stool weighs 8.5 pounds and is comprised of BASF nylon resin, which is 70% post-consumer recycled content. The chair itself is 100% recyclable





## SOLAR POWERED PRODUCTION

For the past 100 years, Steelcase has sought to protect people and the planet with its deeply-rooted environmental and social ethos. In Asia-Pacific, Steelcase Manufacturing Pune (SMP) put these values into action when it became the company's first plant to install a solar photovoltaic (PV) system in 2021.



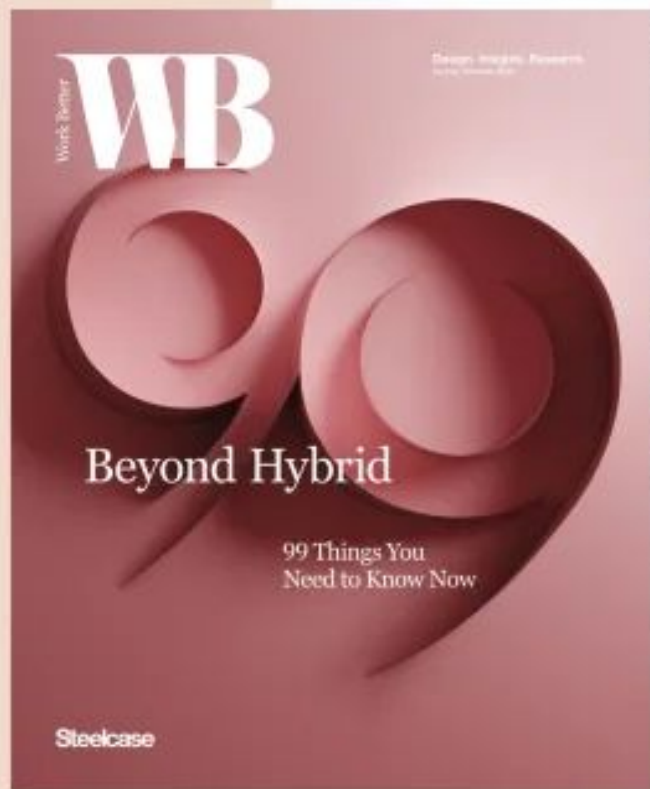


## RESPONSIBLY SOURCED

On average, 90% of the wood in APAC Steelcase brand products is PEFC- or FSC-certified. More than 90% of the wood used by the Steelcase Dongguan facility for product fabrication is procured from FSC-certified suppliers.







## Hybrid Realities

What the Research Says

Hybrid work is about more than who's in the office or not. Once we changed where people work it opened the door to reconsider the *how*: existing norms, processes, behaviors and beliefs. It will take time before people, organizations and societies settle into a new routine. But patterns have emerged that give us a glimpse to where things are now and where they might be going.

3

### Hybrid Work Variables

Businesses are managing around who is working where. Small hybrid work companies focused on end-user change to work in office less often. Big companies in big cities, doing important lower work, are shifting greater work to hybrid or remote work.

#### Company Size

As a percentage of total employees that

70%+ Small < 500	60% Medium 500-1,000	50% Large 1,000+	50%+ Remote 10,000+
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#### City Size\*

As a percentage of total employees that

80% Top 10 metro population	70% Mid size metro	60% Small metro + Rural
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#### Industry

As a percentage of total employees that

High-tech	80% Education	80% Utilities	80% Advertising/Marketing	80% Manufacturing/Construction
Low-tech	80% Healthcare	80% Professional Business Services	80% Technology	80% Telecommunications

\*City size based on population. Source: Steelcase Research Group, 2021. Data is preliminary and subject to change.



Leaders and Gen Z are more likely to be in the office

#### Job Level

80% Individual contributor  
70% Manager in office

#### Generation

As a percentage of total employees  
70% Gen Z  
70% Millennial  
80% Gen X  
90% Boomer



People are struggling — work satisfaction metrics are dropping.

#### Generations in Office

Work-life Balance

Productivity

Communication

In the first three quarters of 2022, 11% productivity fell at the lowest level on research according to the Business of a Better Workplace.

6.

### Factors That Influence People to Work In Office More Often



My job requires an office environment



I have an assigned workstation



My commute time is less than 10 minutes



### What People Want

What do you want to work on when that would bring you to the office most? A third of people who work remotely in office say these things are important enough to bring them to the office most of the time.

#### Space Improvements

1. More individual privacy
2. More comfortable furniture
3. Larger individual space
4. Personal ergonomic furniture

#### Tech Improvements

1. Better computer/furniture
2. Better videoconferencing tools
3. More robust telepresence capabilities
4. Better collaboration tools

People who work remotely the most are most motivated to change to the office. But 40% say they'd still work remotely if they thought their career depended on it.

## The Takeaway

Hybrid work is not one size fits all. Different organizations are doing it differently. But it's not just about who's in the office, it's about how they're working together.

One day everyone will have to be in the office and change. But for now, it's about how they're working together. And yet the research suggests that more than ever, people are struggling to find a way to work that works for them.

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Work Better magazine brings you design, insights and research for today's hybrid workplace. Explore new and notable solutions created to help people work better.



