1969
2019

1969
2019

# 50 years of Innovation

1969 – 2019 INTERFACE ENGINEERING



Author / Brian Libby
Creative Director / Melissa Crosman
Design / Keith Westmoreland

INTERFACE ENGINEERING

**WHAT COMES TO MIND IS THE WAY THEY GO ABOUT THE WORK. IT'S ABOUT BEING A TEAM PLAYER. THEY'RE ALWAYS WILLING TO SIT AT THE TABLE AND TALK. THE FUN PART IS TRYING TO COME UP WITH THE BEST SOLUTIONS FOR WHAT WE'RE WORKING ON. SOME PEOPLE SAY, YOU CAN'T DO THAT. BUT THAT'S NOT TRUE FOR INTERFACE. THEY'RE WILLING TO EMBRACE CHANGE.**

”

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From left /
Bob Andrews
Ken Mehlig
Jim Wright
Dan Pickett

INTRODUCTION /

# After 50 years, leading with innovation

As Interface Engineering celebrates a half century in business in 2019, it's a moment to celebrate: to look back and to look ahead.

Today the company is a leader in delivering efficient mechanical, electrical and plumbing systems for a host of innovative projects around the world. What was back in 1969 an office of four engineers in suburban Gladstone, Oregon is today a team of over 275 professionals across seven offices located in Metropolitan cities. What began with a modest portfolio of local retail and hospitality clients has transformed into an ability to meet any challenge in any realm projects in a spectrum of scales, types and needs in virtually any kind of climate. A project's success validated not just by reduced operating costs and a smaller carbon footprint for clients but also a continuous stream of design awards and sustainable-building certifications. These buildings are places people enjoy being: full of light and clean air, allowing occupants to be healthier and more productive.

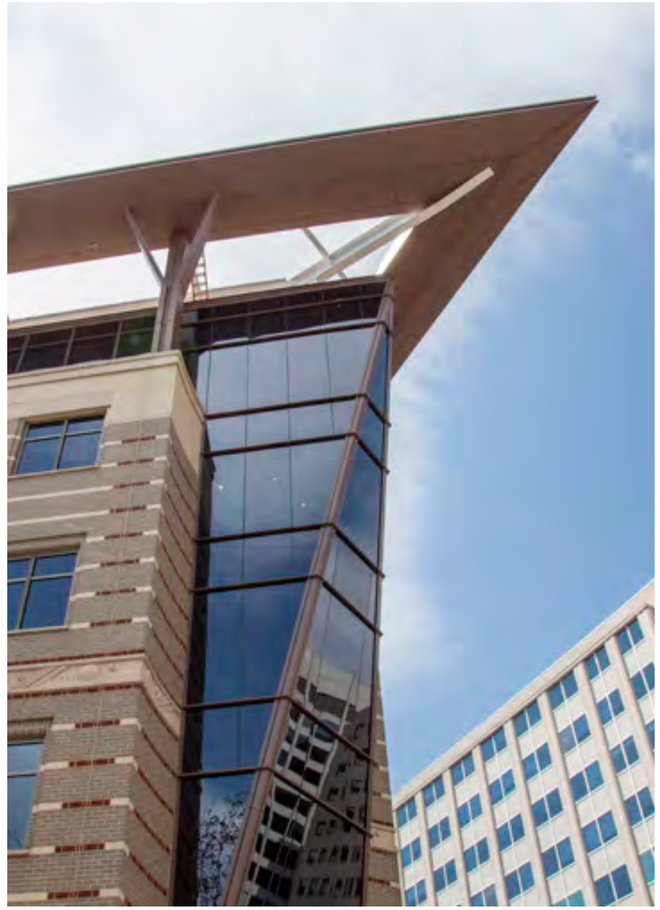
**IF INTERFACE HAS GROWN OVER THE LAST 50 YEARS INTO A NATIONAL LEADER, IT'S BECAUSE THE COMPANY HAS CREATED A CULTURE THAT'S CONDUCIVE TO INNOVATION AND LONGEVITY.**

Today in a succession of cities, countries and climate zones, Interface's projects are all around us. Under construction just across the street from the company's downtown Portland headquarters, for example, is a new waterfront Multnomah County courthouse that will be the face of Portland's skyline for generations and one of the most sustainable buildings in a city already known for them. A thousand miles to the south, the San Ysidro Land Port of Entry—the busiest border crossing in the world—has just been completed, striving for zero energy usage and treating 28 million gallons of water onsite with its own wastewater treatment system. And some three thousand miles to the east, construction is completing on the American Geophysical Union headquarters in Washington, DC, the first zero-energy commercial renovation in our nation's capitol; its design innovatively taps into the municipal sewer as a geo-exchange heat sync for the building's heating and cooling needs. That's just for starters.

Over its half-century, Interface has been continually growing—not just in the number of employees and offices, but in ability and expertise. The past half-century has seen an utter transformation of the building industry, particularly as it relates to sustainable architecture. From the beginnings of the movement in the 1960s and '70s, when America first began exploring solar power and contemplating energy efficiency, to the '90s and 2000s with the rise of the US Green Building Council's LEED (Leadership in Energy and Environmental Design) rating system, to today's embrace of zero and net-positive resource usage and generation as well as a renewed focus on human comfort and wellness, Interface's team of engineers has become an ever-more-valuable contributor. Though engineers of the past may have been good-naturedly teased as lacking creativity, this company is known for its uncommon and inspired solutions, seeking in any project to take advantage of sun, wind and water in a way that allows clients and building occupants to do more with less.

Yet no company is measured solely by its products and services. No engineer is judged solely by the gallons of water saved or the efficiency of its air conditioning. If Interface has grown over the last 50 years into a national leader, it's because the company has created a culture that's conducive to innovation and longevity. As important as securing new commissions and making a profit is creating a setting where our staff feel encouraged to explore ideas and supported unequivocally as they balance home and career. Luckily investing in people allows them to do their most innovative work, as does the feeling of being part of something larger than any one person.

It might be corny to say Interface cares about changing the world, but the planet's greatest challenges have to do with how humans consume resources and produce power. That's what MEP engineering is all about. The company's founders started modestly back in 1969: taking small steps that have allowed Interface, over time, to be part of making giant leaps.

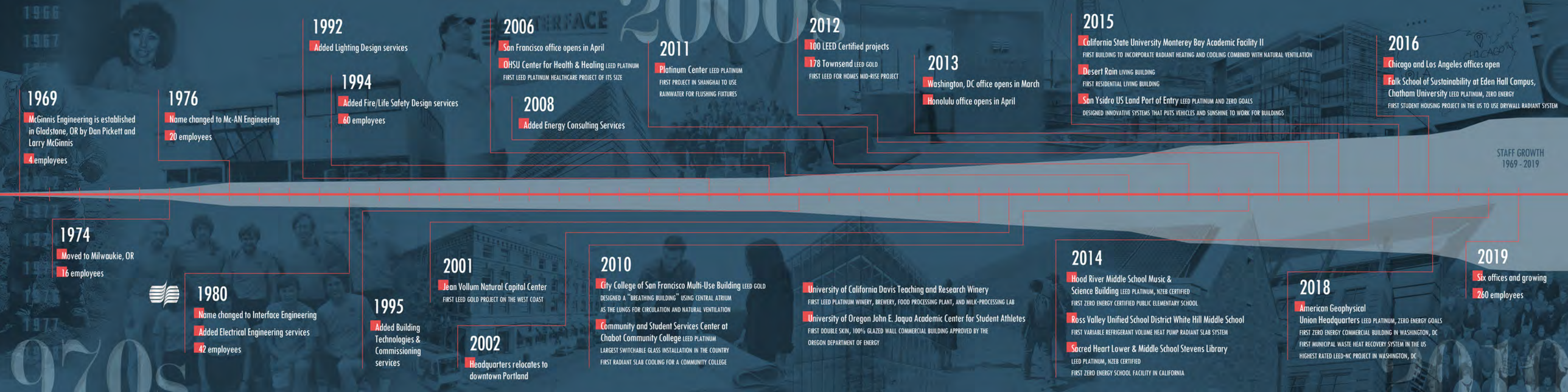


Left /
Multnomah County Central Courthouse
LEED Gold Goal
SRG Partnership, Inc.

Above /
AGU Headquarters
Mark G. Anderson Consultants (MGAC)
© Beth Bagley

**HE WAS THE ONE WHO KEPT THE FIRM THRIVING.”**

Center /
Dan Pickett


1966
1967
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2008
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2011
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2013
2014
2015
2016
2018
2019
1969
McGinnis Engineering is established in Gladstone, OR by Dan Pickett and Larry McGinnis
4 employees
1974
Moved to Milwaukie, OR
16 employees
1976
Name changed to Mc-AN Engineering
20 employees
1980
Name changed to Interface Engineering
Added Electrical Engineering services
42 employees
1992
Added Lighting Design services
1994
Added Fire/Life Safety Design services
60 employees
1995
Added Building Technologies & Commissioning services
2001
Jean Vollum Natural Capital Center
FIRST LEED GOLD PROJECT ON THE WEST COAST
2002
Headquarters relocates to downtown Portland
2006
San Francisco office opens in April
OHSU Center for Health & Healing LEED PLATINUM
FIRST LEED PLATINUM HEALTHCARE PROJECT OF ITS SIZE
2008
Added Energy Consulting Services
2010
City College of San Francisco Multi-Use Building LEED GOLD
DESIGNED A "BREATHING BUILDING" USING CENTRAL ATRIUM AS THE LUNGS FOR CIRCULATION AND NATURAL VENTILATION
Community and Student Services Center at Chabot Community College LEED PLATINUM
LARGEST SWITCHABLE GLASS INSTALLATION IN THE COUNTRY
FIRST RADIANT SLAB COOLING FOR A COMMUNITY COLLEGE
2011
Platinum Center LEED PLATINUM
FIRST PROJECT IN SHANGHAI TO USE RAINWATER FOR FLUSHING FIXTURES
2012
100 LEED Certified projects
178 Townsend LEED GOLD
FIRST LEED FOR HOMES MID-RISE PROJECT
University of California Davis Teaching and Research Winery
FIRST LEED PLATINUM WINERY, BREWERY, FOOD PROCESSING PLANT, AND MILK-PROCESSING LAB
University of Oregon John E. Jaqua Academic Center for Student Athletes
FIRST DOUBLE SKIN, 100% GLAZED WALL COMMERCIAL BUILDING APPROVED BY THE OREGON DEPARTMENT OF ENERGY
2013
Washington, DC office opens in March
Honolulu office opens in April
2014
Hood River Middle School Music & Science Building LEED PLATINUM, NZEB CERTIFIED
FIRST ZERO ENERGY CERTIFIED PUBLIC ELEMENTARY SCHOOL
Ross Valley Unified School District White Hill Middle School
FIRST VARIABLE REFRIGERANT VOLUME HEAT PUMP RADIANT SLAB SYSTEM
Sacred Heart Lower & Middle School Stevens Library
LEED PLATINUM, NZEB CERTIFIED
FIRST ZERO ENERGY SCHOOL FACILITY IN CALIFORNIA
2015
California State University Monterey Bay Academic Facility II
FIRST BUILDING TO INCORPORATE RADIANT HEATING AND COOLING COMBINED WITH NATURAL VENTILATION
Desert Rain LIVING BUILDING
FIRST RESIDENTIAL LIVING BUILDING
San Ysidro US Land Port of Entry LEED PLATINUM AND ZERO GOALS
DESIGNED INNOVATIVE SYSTEMS THAT PUTS VEHICLES AND SUNSHINE TO WORK FOR BUILDINGS
2016
Chicago and Los Angeles offices open
Falk School of Sustainability at Eden Hall Campus, Chatham University LEED PLATINUM, ZERO ENERGY
FIRST STUDENT HOUSING PROJECT IN THE US TO USE DRYWALL RADIANT SYSTEM
2018
American Geophysical Union Headquarters LEED PLATINUM, ZERO ENERGY GOALS
FIRST ZERO ENERGY COMMERCIAL BUILDING IN WASHINGTON, DC
FIRST MUNICIPAL WASTE HEAT RECOVERY SYSTEM IN THE US
HIGHEST RATED LEED-NC PROJECT IN WASHINGTON, DC
2019
Six offices and growing
260 employees
STAFF GROWTH
1969 - 2019


**THE COMPANY'S FOUNDERS STARTED MODESTLY BACK IN 1969: TAKING SMALL STEPS THAT HAVE ALLOWED INTERFACE, OVER TIME, TO BE PART OF MAKING GIANT LEAPS.**
”

1969 - 1979

CHAPTER ONE /

# Humble Beginnings

1969 was quite a year in history. Astronauts walked on the moon, The Beatles recorded their last album, and war was raging. After Joe Namath's cocky guarantee, the New York Jets won the ultimate Super Bowl upset and the musical "Oliver!" (another underdog story) took home the Oscar for Best Picture. The average income was just $8,500, but that's okay, because the average house could be procured for less than $5,000.

Amidst this close of the 1960s, in the town of Gladstone, Oregon, some 11 miles up the Willamette River from downtown Portland, Larry McGinnis and Dan Pickett decided to go into business together. The pair had met and been colleagues together at the Portland office of Skidmore, Owings and Merrill, a New York and Chicago-based architecture firm renowned for its skyscrapers, from New York's Lever House to Chicago's Sears Tower. Locally, the firm had designed landmarks like Portland's Memorial Coliseum and Eugene's Autzen Stadium. SOM was big enough to offer a range of both architectural and engineering services.

McGinnis and Pickett's post-SOM partnership, McGinnis Engineering, focused on mechanical and plumbing engineering. At its outset in Gladstone, the scale of work was relatively modest (compared to today) but the pace was steady, with repeat business from commercial, retail and hospitality clients. "We did a lot of strip malls, small office buildings. Red Lion and Fred Meyer were repeat clients with volume work," recalls Interface senior plumbing designer Scott Holum. "We did a lot of work that was completed in a week or two. It was

a different way of working from now. The founders pretty much were in charge of all the jobs. They had the client contacts." But McGinnis and Pickett were also mentors to their younger engineers. "They'd work with you and bring you along to their meetings to learn," Holum adds. "The culture was very relaxed, even though it was all the work you could handle."

Dan Pickett's strength was the management side, employees say. "He was the one who kept the firm thriving," managing principal Andy Frichtl recalls. "He didn't have a big ego at all, but he was the more formal of the two. I remember him telling me, 'You need to look at what architects wear, and that's what you need to wear.'"

Jim Wright, another early key leader at the firm, was quiet with a dry sense of humor, recall some of Interface's most long-serving employees. "Jim was good with reading personalities and people," Frichtl remembers. "He knew even if a candidate was talented, it had to be the right fit."

In the 1970s, the building industry was poised for change. 1969 had been the last year that America could meet its petroleum demands with domestic sources, and the 1973 oil crisis saw prices more than triple overnight amidst nationwide shortages. New building codes called for energy conservation for the first time. That same year, the State of Oregon passed Senate Bill 100, which, in a national first aimed at curbing sprawl while protecting farmland and forests, required every city and town to have an urban growth boundary. From here on, locally and nationally, there was a developing need to think about using finite resources more efficiently.

All the while, the firm was moving, growing and changing. After five years in Gladstone, in 1974 the firm moved to nearby Milwaukie, about halfway to Portland. The staff had quadrupled by this time, from four to 16. And after seven years, the man whose name was on the door, Larry McGinnis, was ready to move on. McGinnis Engineering became Mc-AN Engineering, a pun that retained the old firm's first two letters in an abbreviation of "mechanical." The founding partner's departure left Bob Andrews as the only engineer with PE registration. "He became a mentor to a number of people on staff," McMichael remembers. "He was analytical, kind of quiet. He had this dry sense of humor and I thought he was just hilarious. I also learned a lot from him."

As the 1970s ended, a handful of the people in leadership positions today at Interface had already joined the firm, including not only McMichael and Holum but managing principal Rob Matteson. "I started part time at 19 as a drafter while I was going to college," he remembers. "I went to full time as soon as I graduated, and within three or four years I was doing a lot of design on Red Lion hotels on the

Above /
Jim Wright

Right /
Dan Pickett

plumbing side. It was pretty rapid. Interface always had a culture of empowering people, giving them the oversight and mentorship and opportunity, but not holding them back from taking on responsibility and aggressively, ambitiously looking at their career and giving them opportunities to capitalize on that. It's still here, I think, in many ways. I always had an opportunity to grow, always felt like this was the right place. It's just grown from there."

McMichael's story was similar. As a high school senior, his father, who worked in the heating and cooling business, suggested his son go see Andrews about a summer job. "I worked that summer and then went to college, work over Christmas break and the following summer," McMichael recalls. "But each time they'd give me more responsibility." After college graduation, he was at Interface to stay.

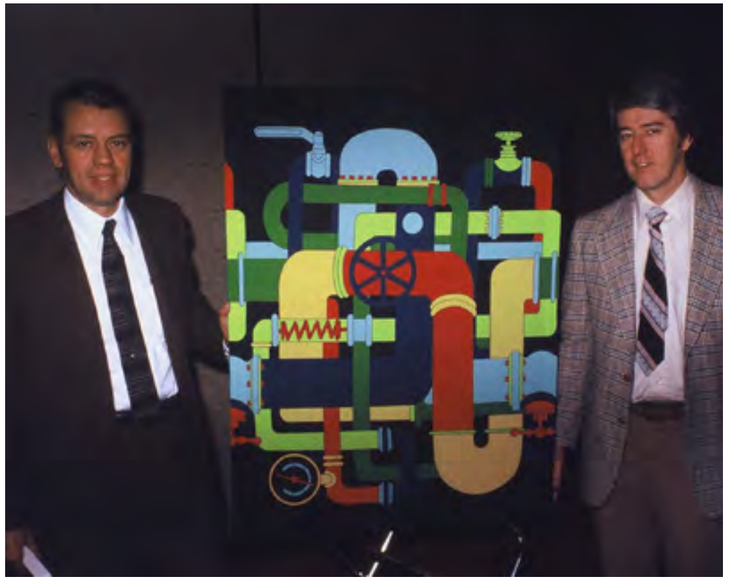


Left /
Bob Andrews

Right /
Milwaukie Office


Left /
McGinnis Engineering

Right /
(top row) Scott Holum, Doug Shaw, Dennis Obritschkewitsch, Greg Ellsworth, John McMichael
(bottom row) Betty Cundiff, Joan Eddy, Hank Barleen, Jim Wright



From left /
Dan Pickett,
40th Birthday Party

Norma Proctor

Bob Andrews & Dan Pickett

Ken Mehlig

Staff Holiday Party


**IT WASN'T ANY ONE PERSON'S NAME ON THE DOOR, AND THAT WAS INTENTIONAL... IT WAS A NAME THAT COULD BE THE SAME FOR GENERATIONS.**
**"**

Left /
Interface Staff,
circa 1980


CHAPTER TWO /

1980 - 2001

# Becoming Interface

As Ronald Reagan won the presidency, video games and MTV captured kids' imagination for the first time and parachute pants replaced bell bottoms as the hot fashion trend, the firm entered the 1980s with a new name, a new capacity and more than double the staff of just four years earlier.

In the late 1970s, Mc-AN Engineering had occupied half of its small Milwaukie office building, with the other half occupied by an electrical firm. The two companies saved money by sharing the same secretary and often worked together on the same projects. In 1980, the two firms merged and from then on, the company was known as Interface Engineering. "It wasn't any one person's name on the door, and that was intentional," says Interface principal Steve Dacus. "It was a name that could be the same for generations. I think it's telling that they were thinking about that back then."

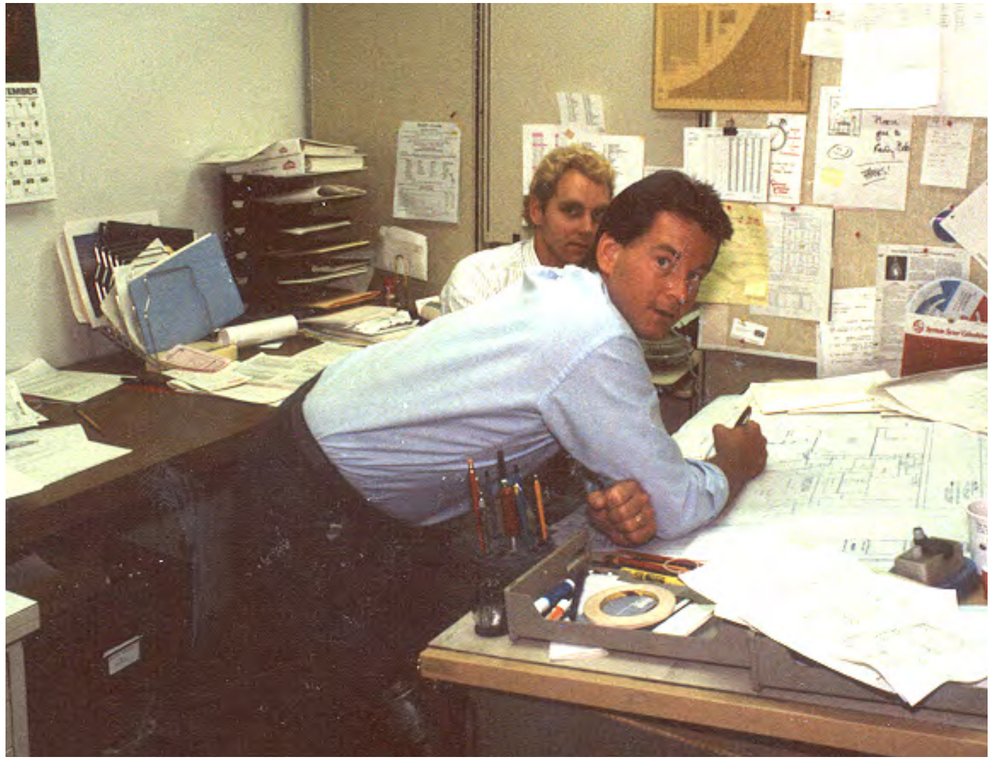
With energy prices stable again in the 1980s it was to be another decade or two before sustainable architecture would really begin to go mainstream. Yet utility costs in much of the country were going up steadily, and Interface was beginning to explore ways to save resources for its clients.

On a hotel project in Costa Mesa, California for longtime client Red Lion in the mid-1980s, for example, the team created an innovative solution. "They had tremendous utility rates and demand charges," McMichael remembers. "It was a 500-room convention hotel with laundry and kitchens and ballrooms and meeting rooms—the full gamut. We designed two 230-watt generator sets that ran on natural gas. They paralleled

with the utility grid to shave off peak demand, and they used the heat generated from the engines to go anywhere in the place that heat was needed: laundry, showers, etc. To this day, we've not done a project quite like that." McMichael vividly remembers the first generator test, in the motel's parking lot: "We were confident but we were crossing our fingers. They flip the switch and it doesn't miss a beat. It was a little bit Rube Goldberg, but it worked."

As sales of Air Jordan shoes brought Phil Knight and Bill Bowerman's company unprecedented growth, Interface was a team member on the original Nike World Headquarters in Beaverton, Oregon by Thompson Vaivoda (now TVA Architects): a pioneering blend of office buildings and a parklike landscape. "The architect was very aesthetically concentrated, so all of the mechanical equipment had to meet this high bar of being not visible. It had to fit in without changing the architecture," McMichael recalls. "There were about nine buildings of varying sizes and programs. That was a big challenge."

Right /
Nike World Headquarters



Left /
Milwaukie Office Staff

Right /
Rob Matteson

In the early 1990s, as grunge rock and flannel shirts became the latest music and fashion trends, interest in energy efficiency and sustainability began to become more institutionalized. In 1993, the US Green Building Council was founded, leading to the creation of the LEED rating system, which has since certified some 80,000 buildings in 162 countries. That same year as the USGBC's founding, Interface worked for the first time with Portland developer Gerding Edlen, who would go on to commission some of the nation's first LEED-certified commercial office buildings, housing, and historic renovations. The Pacific Gas Transmission headquarters at the south edge of downtown Portland, designed by Mackenzie-Saito (now Mackenzie) and completed for Gerding Edlen in 1993, "was a LEED building before LEED was ever in existence," McMichael says.

**GERDING EDLEN WANTED TO MAKE A STATEMENT ABOUT ENERGY, AND DAN PICKET JUST SAID, 'GO FOR IT.' HE PUT HIS TRUST IN US. IT WAS A LEAP OF FAITH."**

The building was approximately 40 percent more energy-efficient than code stipulations of the day required, thanks to an innovative ice-storage system. "Nobody in Portland had done one before, and neither had we," McMichael explains. "But Gerding Edlen wanted to make a statement about energy, and Dan Picket just said, 'Go for it.' He put his trust in us. It was a leap of faith." This was still seven years before the LEED rating system even began.

As the office reached 60 employees in the mid-'90s, Interface added a number of new offerings to its MEP portfolio, including fire/life safety in 1994. "We have the biggest fire/life safety team in Portland now," says associate principal and fire life safety designer Kathleen Roach. "We can fit anywhere from design-build, where we evaluate a building and write specifications and the contractor puts the design together, to life safety analysis and installation-level designs. We can do the whole thing." In 1995, building technologies, commissioning and energy services were added, helping to establish for Interface a range of services related to energy efficiency and resource conservation.

By the second half of the '90s, as the World Wide Web became part of our daily lives for the first time and *Seinfeld* ruled the airwaves, on the eve of the firm's 25th anniversary Interface's remaining founding fathers began to think about how to transition into retirement in a way that would help maximize the firm's chances of future success. With this in mind, they created an official Employee Stock Option Program (ESOP) that made key staff members the new owners. "They picked ten people. I was the youngest of the ten," remembers Interface managing principal Andy Frichtl, a former college running back who had joined the firm part time in 1997 while still an engineering student. "We were still a fairly small firm at that point. But it didn't take us that long to grow in the following decade."

Above /
Dan Pickett


Above /
Jean Vollum Natural Capital Center
LEED Gold
Holst Architecture PC

By the turn of the 21st century, Interface was well positioned to compete for some of the most innovative sustainable building projects. Interface worked with Holst Architecture and nonprofit client Ecotrust on what became the first building in the western United States to earn a Gold LEED® Certification (second only to Platinum) and the first LEED certified historic building: the Jean Vollum Natural Capital Center. A renovation of the circa-1895 McCracken warehouse, a beauty teeming with old-growth Douglas fir and red brick, the design included a number of then-uncommon features that helped lower utility costs and environmental impact, such as collecting and filtering rainwater runoff with an eco-roof and bioswales (for toilets and irrigation) in order to use about one-third less water.

"We did some cool stuff," Frichtl remembers, perhaps with pun intended. "It had these great bones, so we used the thermal mass of the building to keep it a constant temperature. We asked a lot of questions. 'How do we shift temperature expectations? How do we pre-cool using outside air at night?' It's a pretty basic concept today but back then it was pretty innovative."



From left (clockwise) /
Jon Gray & John McMichael,
Holiday Party

Mark Jackson (left)

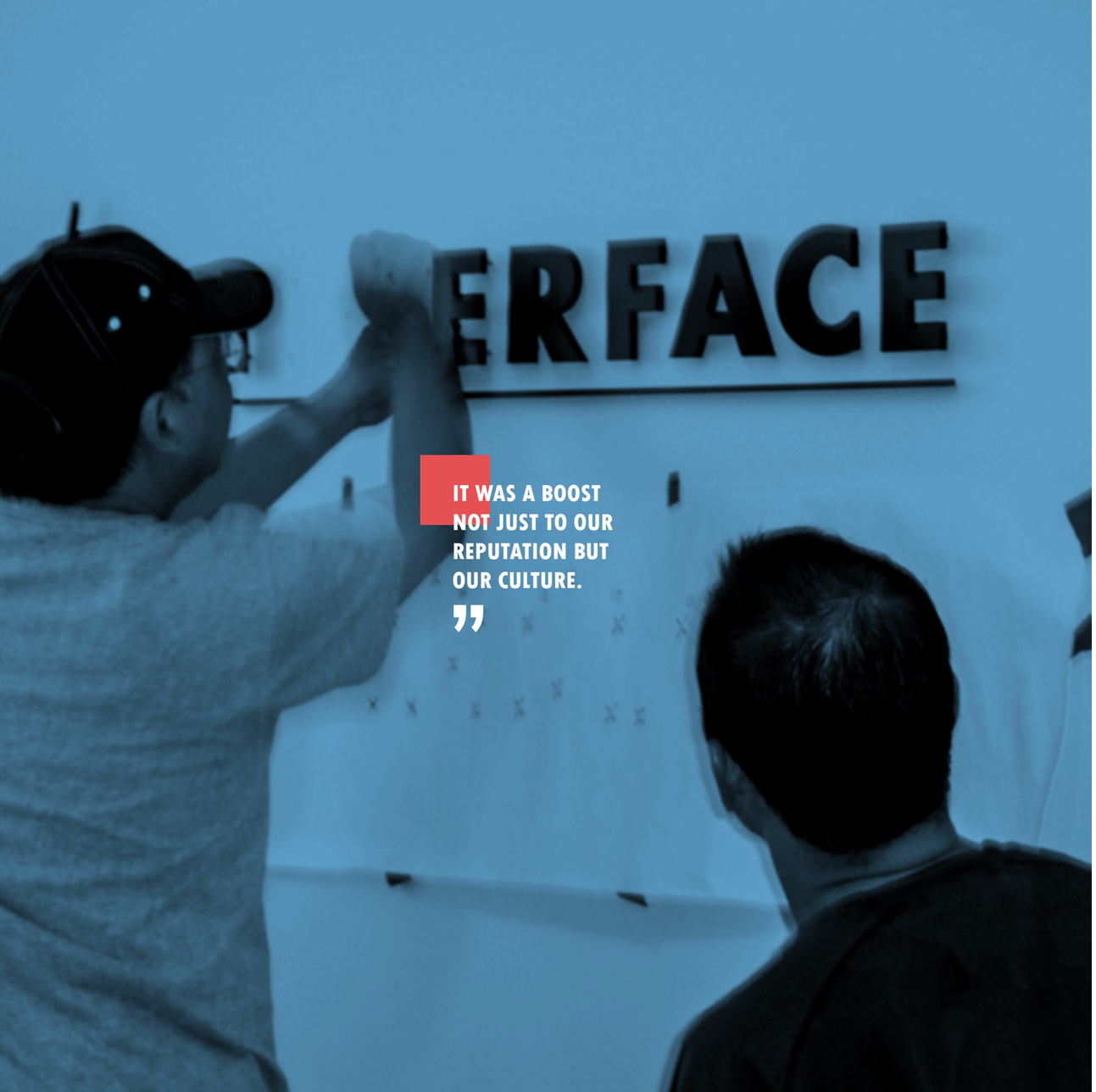
Norma Proctor

Andy Frichtl & Dan Pickett

Milwaukie Office

**THEIR STAFF HAVE BEEN VERY CREATIVE ABOUT PROBLEM SOLVING—GOING BEYOND JUST THEIR DISCIPLINES—AND WORKING OUT THE PROBLEMS.”**

Left /
Portland Staff,
3rd and Morrison




**IT WAS A BOOST NOT JUST TO OUR REPUTATION BUT OUR CULTURE.”**

CHAPTER THREE /

2002 - 2006

# Expanding Horizons

In 2002 came another turning point: the move from Milwaukie to downtown Portland. As the nation transitioned from recession and the September 11 terrorist attacks to a time of nearly unprecedented economic growth, the company set up shop in an office on Southwest Third Avenue above a Borders bookstore. The bookstore chain eventually folded, but this would become a place of tremendous growth for the company, and a remade identity.

“It put us in the forefront of clients’ minds,” principal Steve Dacus says of the move. “It was a boost not just to our reputation but our culture: to start thinking of ourselves differently, as people who could be at the forefront of engineering concepts that we hadn’t thought of or done in the past. In Milwaukie we did churches, we did schools, we did retail projects. But we didn’t get any high-profile stuff. That didn’t start happening until we came downtown and made everybody take notice.”

Indeed, the early 2000s seemed to mark a new era for Interface’s workforce. “The company was in a growth mode, and there were a number of people who started with Interface in those days,” recalls principal Andrew Lasse. “I felt like there was a lot of camaraderie and a feeling that we were in all this together.”

During these days of reality TV’s rise and the first iPods came another milestone: the opening of Interface Engineering’s San Francisco office in 2006. It was inaugurated by current managing principal Hormoz Janssens and principal Joel D. Cruz, who had worked together for years at other firms.

They were soon joined by two more colleagues, Interface principal Rick Russell and associate principal Jason Lau. All four remain with the firm today. “I’ve basically watched the company grow from having two principals and two employees to an office of over 70 people. We never expected to grow that quickly,” Lau says. “But just two years after the office opened we outgrew our space and had to move. I think it was another six years later we outgrew that office and moved to our current location. I think it just speaks volumes about the principals and the relationships we’ve developed with our clients.”


Left /
San Francisco Office

Right /
Joel Cruz & Hormoz Janssens

**CHH UPON COMPLETION WAS THE LARGEST LEED PLATINUM PROJECT IN THE NATION.”**

Left /
Center for Health & Healing at OHSU
LEED Platinum
GBD Architects
© Sally Painter

Above /
Andy Frichtl

Back in Portland, another milestone for the company was the LEED Platinum certified Center for Health and Healing at Oregon Health & Science University, completed in 2006. The first building constructed as part of OHSU’s expansion from Marquam Hill into the South Waterfront district, CHH North (a second CHH has since been completed to the south) was built at the base of the Portland Aerial Tram, only the second such tram in the United States, after an international design competition. Designed by GBD Architects, the 16-story, 412,000-square-foot CHH upon completion was the largest LEED Platinum project in the nation. It was one of the first large buildings in the United States to replace forced air conditioning with vastly more efficient passive cooling with chilled beams. Sun shades on the side of the building double as solar power generators, and the CHH also houses the first large-scale onsite microturbine plant in Oregon, meeting 30 percent of electrical demands and nearly all hot water needs. An on-site wastewater treatment plant, in the form of a bioreactor, treats 100 percent of the building’s wastewater and reuses approximately 22,000 gallons a day for non-potable uses such as toilets and irrigation. According to a study by the Green Cities Fund’s Livable Place Index, compared to a conventional building designed to 2006 codes, the Center for Health and Healing saves an estimated 20.3 million kilowatt hours (enough to power nearly 1,500 homes) annually, as well as an estimated 7,778 metric tons of carbon dioxide (the equivalent of taking more than 1,600 cars off the road), and over 20 million gallons of water (enough for over one million showers).

To deliver increasingly sophisticated projects, Interface also became an adopter of Revit, released in 2000 and part of an eventual industry-wide move to what's known as building information modeling (BIM for short): a three-dimensional virtual model of the project that's shared by nearly all building team members. BIM has eliminated waste and inefficiency in design and construction by allowing every last millimeter of the project—specifically the miles of pipes and wires that occupants often don't see—to be mapped out like never before.

Above /
Revit Exchange

In 2008, the company's energy department, which began in 1995, expanded their consulting services to include dedicated building science analysts in each office. By integrating these experts into the project team, the firm was again demonstrating their drive for optimal performance: modeling became an advanced design tool, prompting new resource strategies, aiding the selection of systems and materials, and managing costs. That year, one that began the Great Recession and then saw Barack Obama win the presidency a few months later, two projects exemplified where Interface and sustainability were going.

The United States Embassy in Quito, Ecuador was a seven-building compound oriented to maximize daylight and define a series of external courtyards recalling colonial Spanish and native Ecuadorian architecture. Designed by Yost Grube Hall to meet LEED Silver strictures, it is part of a burgeoning portfolio of work that Interface and its design and construction partners have completed for the United States government.

Working in other countries also calls for a different kind of teamwork between building team members. "Their staff have been very creative about problem solving—going beyond just their disciplines—and working out the problems of international work," says Craig Totten, a principal with Portland civil and structural engineering firm KPFF, with which Interface has worked on many projects. "I feel as though I'm getting the personal attention of their engineers when we work together."

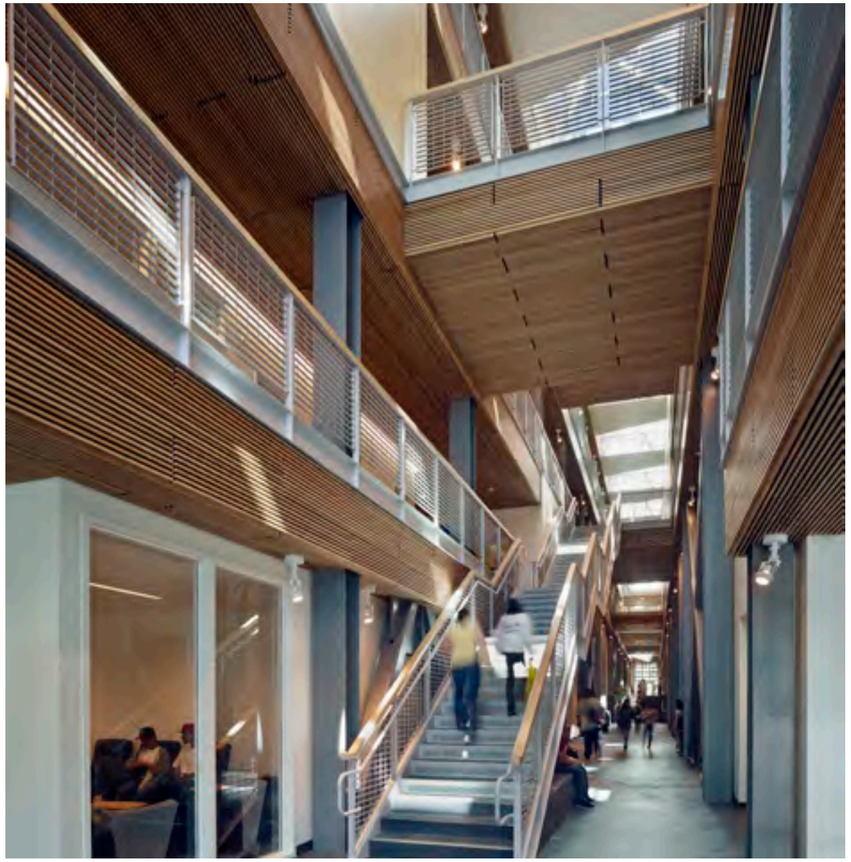
Above /
US Embassy Quito
Yost Grube Hall Architecture PC

2008 also saw completion of the Moanalua Medical Center renovation in Hawaii, which eventually helped establish Interface's Honolulu office a few years later. "There was basically two-plus years of phased construction going on in a fully operating ambulatory hospital. The building and healthcare services never went down and it remained completely operational," says associate principal and senior electrical engineer Jason Lau.

As a new decade arrived in 2010, a trio of California projects helped define Interface's expansion down the West Coast, starting with the City College of San Francisco Multi-Use Building, designed by VBN Architects and Pfau Long Architecture. The project received a LEED Gold certification in part because of how it breathes, using a central atrium as the lungs for circulation and natural ventilation. The Community and Student Services Center at Chabot Community College in Hayward, California, designed by tBP Architecture, earned a LEED Platinum certification thanks in part to the largest switchable glass installation in the country, allowing the glass to seamlessly tint or clear within minutes. The project exceeded California's rigid Title 24 requirements by 46 percent. And the Teaching and Research Winery, Brewery & Food Science Laboratory at the University of California Davis, designed by Flad Architects, was the first LEED Platinum winery in the United States. All carbon dioxide generated during fermentation is sent out of the building to reduce unnecessary air intake and air conditioning.

2010 also brought a landmark project at the University of Oregon in Eugene: the John E. Jaqua Academic Center for Student Athletes. A glass cube designed by ZGF Architects, it featured a unique double-skin glass façade that still managed to meet energy codes. "We ran a lot of calculations to try and meet it, which wasn't easy to achieve," principal John McMichael remembers. "It's got all these motorized shades with air moving between the glass walls, and it lets the air out on top."

Above /
UC Davis Teaching & Research
Winery, Brewery & Food Science Laboratory
LEED Platinum
Flad Architects
© Robert Canfield



From left /
City College of San Francisco Multi-Use Building
LEED Gold
Pfau Long Architecture / VBN Architects, © Bruce Damonte

Chabot College Community Student Services Center
LEED Platinum
tBP Architecture, © Ray Juachon

Kaiser Moanalua Medical Center Ancillary Renovation
Lionakis, © David L. Moore

University of Oregon John E. Jaqua
Academic Center for Student Athletes
ZGF Architects, © Stephen Cridland

Above /
Zhangjiang Hi-Tech Park
LEED Platinum
LRS Architects

Right /
Shanghai Site Visit

In 2011 came one of Interface's biggest building commissions, the Zhanjiang Hi-Tech Park in Shanghai, designed by LRS Architects and clocking in at over a million square feet. "It was pretty innovative, and hard to pull off," remembers Andy Frichtl. "At first, being able to convince the Chinese government to spend money on sustainability was quite the task. They were very budget-conscious. But they knew they had air quality issues and a challenge meeting energy demand. Electricity there is ten times more expensive at peak times of day versus off-peak. Shanghai's infrastructure can't keep up. So we designed these big thermal-storage systems. Here in the United States, it would be prohibitively expensive, but there the payback was so great. They didn't have to run dirty coal plants all night. We did a huge water-reclamation system; it all drains to a lagoon that treats the water to pretty high standards, and it's used for non-potable supply for everything." Frichtl remembers making the argument for re-using water to clients from the Chinese government officials and learning it wasn't allowed by codes. But that changed quickly. "They came back the next day and said, 'We're going to allow this now in Shanghai.'"

In 2011 and 2012, two more high-achieving projects were named to the American Institute of Architects' Committee on the Environment's prestigious Top Ten Green Projects List. The LEED Platinum-certified Music and Science Building at Hood River Middle School was designed by Opsis Architecture to be a showpiece of sustainable ideas and a teaching tool for students. This led the client and design team toward a zero-energy building for which the students could track and budget energy use. And Portland Community College's Newberg Center, in the Willamette Valley south of Portland, designed by Hennebery Eddy Architects, makes use of passive stacked ventilation and efficient mechanical and electrical systems to require very little energy use and cooling loads.

Left /
Hood River Middle School Music & Science Building
LEED Platinum, Net Zero Energy Certified
Opsis Architecture, © Michael Mathers

Right /
Portland Community College Newberg Center
LEED Platinum
Hennebery Eddy Architects, © Stephen Miller

Left /
John McMichael
Portland Office Picnic

Right /
Portland Golf Tournament

From left (clockwise) /
Beverly Markstrom & Jon Gray, Holloween Party

Portland Golf Tournament, 2007

Jason Lau

Andy Frichtl & Dan Pickett

Rick Russell, Hilda Bordas, Hormoz Janssens, Joel Cruz, Siobhan Nimedez, San Francisco Golf Tournament

SF Staff Giants game outing

Above /
All Staff Holiday Party,
2009

**WE STEP BEYOND BEING THE CONSULTANT WHO MEETS CONTRACTUAL OBLIGATIONS AND YOU BECOME THE CONSULTANT WHO HELPS MAKE IT MORE THAN IT SET OUT TO BE.”**

Left /
San Francisco Staff,
circa 2017


**WE WANTED TO WORK ON HIGH-END PROJECTS THAT MADE A DIFFERENCE IN THE COMMUNITY AND CONTRIBUTED TO HIGH-PERFORMING DESIGN."**

CHAPTER FOUR /

2013-2019

# Going National

In this decade, Interface has become an MEP engineering consultancy with national and international reach, thanks to a quartet of new offices. First came the Washington, DC office in March of 2013, then the Honolulu office a month later.

What's the key to opening a successful office in another city and state? "It's not the location. It's not even the timing," says managing principal Andy Frichtl. "It's the bond you form with a key person in that city or town. It's a lot easier to grow organically instead of acquiring a firm."

The Washington, DC office came about when Interface was approached by Roger Frechette, the founder of a Chicago firm focused on energy-efficient buildings. Frechette and his colleague, Kevin Cahill, had previously opened the DC office of another national MEP firm, and though they loved the Windy City, they yearned to be back in business in our nation's capital, working on many government and international projects. "Interface had a great reputation, having delivered some very responsible sustainable buildings over the years," recalls Frechette, now a managing principal. "Interface at the time was known as a medium-sized Pacific Northwest engineering firm on the rise. We thought this could be a good marriage in that we could pair the international best practices we'd learned with Interface's experience in the regional and domestic market."

When the DC office first opened in March of 2013, "We didn't even have a physical office," Frechette remembers. "Kevin and I were working out of a Starbucks. But I think we benefitted from having started and grown a large engineering firm before. We knew what we didn't want to do. Before, we'd tried to

Above /
Honolulu Office
Holiday Party

Right /
Roger Frechette
DC Open House

be all things to all people. When we came back to town, we said, 'We're going to be specific about the projects and clients we get involved with.' We wanted to work on high-end projects that made a difference in the community and contributed to high-performing design."

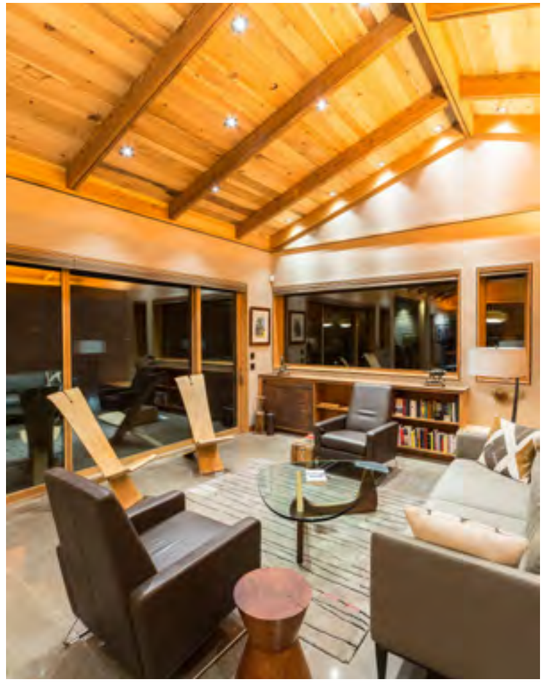
The Honolulu office resulted from ongoing client work in Hawaii, particularly health care projects, that had originated in the San Francisco office. "A few of the firms we were working with had opened offices here, and they suggested we come along," recalls associate principal and senior electrical engineer Scott Sato, who began his career at Interface's Portland office before returning to his home state to work in the Honolulu office.

Each city and region come with their own opportunities, and in Honolulu, Interface has been a partner on numerous government, health care and hospitality projects. And because Hawaii's electricity rates rank with the highest in the nation, there is ample interest from clients in embracing a host of energy-efficiency and alternative energy strategies. "Almost every new building that we do either has photovoltaic panels going on it or at least is being prepped for PV," Sato explains. "There's been a big push from the utilities here to decrease our reliance on oil. But as a result, everything pays back here much quicker."

Indeed, a mix of projects around the country and the world began to emerge. The 178 Townsend building in San Francisco by HKS Architects, for example, completed in 2012, was the first LEED Platinum for Homes mid-rise pilot project, re-imagining a circa-1888 power-company building into an apartment complex. That same year brought the Sacred Heart Lower and Middle School Stevens Library in Atherton, California, a LEED Platinum-certified building that was the first school in California to be certified by the Living Building Challenge—thanks not only to a photovoltaic array but also to a heating and cooling system utilizing evaporative cooling and displacement ventilation. 2015 brought completion of the LEED Platinum-certified California State University Monterey Bay Academic II Facility in Seaside, California, which employed radiant and heated slabs with stack natural ventilation throughout the building and met the energy targets the University set to be achieved 20 years in the future, as well as the Desert Rain residence in Bend, Oregon: the nation's first residential building to meet Living Building Challenge requirements, while achieving zero status for both energy and water.

Left /
Sacred Heart Lower & Middle Schools Stevens Library
LEED Platinum, Net Zero Energy Certified
WRNS Studio, © Bruce Damonte

Right /
Hormoz Janssens



From left /
178 Townsend Street
LEED Platinum for Homes
© Blake Marvin

Desert Rain
Living Building Certified
Whole Water Systems, LLC
© Chandler Photography

California State University
Monterey Bay Academic II Facility
HMC Architects
© David Wakely Photography

In 2016, a moment of immense national change, came another milestone for Interface Engineering with the opening of the company's Chicago and Los Angeles offices.

**WE JUST HIT IT OFF: THE TYPES OF PROJECTS THAT INTERFACE DOES AND THE VISION FOR GROWTH.**

The Chicago office was co-founded by a quartet of engineers who had worked together at the same firm as Frechette before he returned to Washington, DC. "What drew us was the firm's focus on energy efficiency and resource conservation," explains associate principal Craig Burton. "Interface understood that sustainable design isn't just a measurement of how big the chiller plant is or the PV panels are. It's about how the overall building performs and functions."

In Chicago, tall building expertise has been a calling card. "A supertall is basically three or four high-rise buildings stacked onto each other, with these distributed systems that push chilled water or steam over a thousand feet in the air. Achieving high performance is a real challenge," Burton explains. "There's a lot of collaboration between the architects, structural engineers and MEP engineers to install the equipment efficiently. That's where we spend a lot of our time as an office, finessing that design process."

The Los Angeles office's July 2016 opening was a chance for Interface to more fully take advantage of opportunities created by the San Francisco office's success as it reached further south into California. Principal Eugene de Souza, who came to Interface after a more than 20-year career working on major institutional projects like Los Angeles International Airport, recalls meeting Janssens and becoming excited about the work they could do together. "We just hit it off: the types of projects that Interface does and the vision for growth," de Souza recalls.

As one of the nation's two largest cities, Los Angeles offers a wide variety of project types, with Interface's local portfolio even after just two years including hotels, condominiums, offices, and a sizable amount of renovations. Most of all, de Souza sees in Southern California a substantial commitment to carbon neutrality. "We're finding a lot of owners and developers are looking at it," he says. "It's a challenge to comply with Title 24, but that's also opened people's eyes to new solutions."


Above /
Craig Burton
CTBUH/ComEd Presentation

Left /
Eugene de Souza
Los Angeles Office

Right /
Kevin Cahill
DC Open House

2016 also brought completion of the Chatham University's Eden Hall Campus outside Pittsburgh, which was named to the following year's COTE Top 10 Green Projects list by the American Institute of Architects. Designed by Mithun, it was the first college campus to be designed from the ground up to achieve zero-energy and water goals. "It broadened our view, to design a whole campus—five buildings at once—rather than going building by building, with simultaneous master-planning and design," says associate and senior energy analyst Steve Gross. "It was a lot of strategizing about how these buildings share energy and can contribute to one another. They're all pieces of the total puzzle. It changed the way we think about projects and how they can work in tandem."

Besides the engineering itself, the Eden Hall Campus was a chance to help make the case to the school's stakeholders. "It was us being able to work hand in hand with the president of the university," managing principal Hormoz Janssens explains. "It was her last project before she retired, and she was such a force. She maneuvered through all the adversity, all the politics and the financial challenges, to make this campus happen. She had us come to a variety of events to make the case to donors, and to sell the idea of a campus built around the idea of sustainability. But it's easy to sell something you truly believe in."

Left /
The Falk School of Sustainability at Eden Hall Campus, Chatham University
LEED Platinum + Zero Energy Goals
Mithun
© Bruce Damonte


From left /
The Falk School of Sustainability at Eden Hall Campus, Chatham University
LEED Platinum + Zero Energy Goals
Mithun
© Bruce Damonte

Hormoz Janssens
Greenbuild LA, 2016

**INTERFACE WORKED WITH US TO HELP THE CLIENT RECOGNIZE THAT THERE WAS VALUE IN SAVING ENERGY AND CONSERVING WATER.”**

Left /
San Ysidro US Land Port of Entry, Design Excellence, LEED Platinum, Zero Energy Ready
Miller Hull Partnership, LLP
© Magnusson Klemencic Associates

Above /
Andy Frichtl
GreenBuild LA, 2016

In 2017 came two of the most innovative projects in Interface Engineering’s history: the San Ysidro Land Port of Entry in San Ysidro (Phase 1), California on the US-Mexico border, and the Edgewood Lodge at Lake Tahoe, Nevada.

Designed by Miller Hull for the General Services Administration, San Ysidro is the only LEED Platinum certified official United States Land Port of Entry in the GSA portfolio. Completed in 2019 after a decade of planning and three phases of construction, the 225,000-square-foot project (including a new automobile crossing and buildings for the US Department of Homeland Security) had to be constructed even while this busiest border crossing in the world remained operational, processing an average of 50,000 northbound vehicles and 25,000 northbound pedestrians per day.

At San Ysidro, a 305,000-gallon water reclamation system will save 28 million gallons each year. “We looked at all these people coming across and said, ‘Somehow that’s got to be a resource,’ Andy Frichtl recalls. “The wastewater treatment plant we ended up designing sits below Interstate 5 and generates all the non-potable water for the campus and acts as a heat sink and a cistern. We had to ask ourselves, ‘How do you justify this economically from a life-cycle standpoint?’ As soon as you’re going over budget it’s going to be out. But water is scarce down there. We found out sewer charges were climbing, about triple what it is here in Portland. Suddenly this wastewater treatment plant is economically viable.”

The team also was tasked with improving air quality for the inspectors in the border-crossing booths meeting motorists. “The emissions from all the idling would blow right into the

inspectors' booths. The GSA said, 'We have to solve this issue. We have to rotate our guys because their exposure is too high,'" Frichtl explains. "It took tons of research to solve it. We had to do a computational fluid dynamics model. We got data from the GSA and simulated what we thought was the emissions of cars waiting for hours, 200-deep. I walked between the cars with guards and a carbon monoxide meter and took measurements. We calibrated our boundary conditions and plugged that in. We came up with a dilution ventilation system, where we brought clean air at a high mass, from 30 to 40 feet above. It was basically a shower of fresh air enveloping the inspectors. We also positioned the new buildings to take better account of existing wind patterns and flush those emissions out. It totally solved the issue, 100 percent. That was a big deal. You won't find many engineers wanting to touch these kinds of solutions. Dilution ventilation? Nobody does that. Using a wastewater treatment plant for heating and cooling? Almost never done."

Before any of that innovation could happen, the client had to be convinced. "When we established a list of project priorities with the GSA, there wasn't anything related to sustainability or design on their list. But they cared about maintenance costs," recalls Rob Misel, a partner at Miller Hull Partnership. "Interface worked with us to help the client recognize that there was value in saving energy and conserving water. We talked to the owner about how the project could set an example and demonstrate how to adequately utilize resources. We were able to prove out options in real time in our meetings. We could compare first costs to lifetime costs. The client could see the benefit of these investments, even though they hadn't been on their radar."

Above /
San Ysidro US Land Port of Entry, Design Excellence,
LEED Platinum, Zero Energy Ready
Miller Hull Partnership, LLP
© Magnusson Klemencic Associates

Above /
Edgewood Lodge Cabins and Clubhouse
Cottle Carr Yaw Architects
© Draper White Photography

For the Edgewood Lodge project in Lake Tahoe, Nevada, a 154-room hotel, resort and conference center designed by Cottle Carr Yaw Architects, Interface made use of the famed lake itself to cool the building. The city of South Lake Tahoe's water utility pump house is located adjacent to the new lodge. Interface successfully crafted a plan to use the cold water to cool the resort: a sort of beneficial middle man. But though Frichtl's team determined it could save Edgewood $5 million annually, tapping into a municipal water supply was almost unheard of. Taking measurements as far down as 600 feet, Frichtl's team found using deeper lake water had another benefit: it was free microorganisms. "That's what helped sell it to the City of South Lake Tahoe. It was better for their residents," Frichtl remembers.

One of the most important aspects of Interface's growth has been the transition in recent years to a quartet of managing principals running the firm: Andy Frichtl, Roger Frechette, Hormoz Janssens, and Rob Matteson.

Above /
Hormoz Janssens, Rob Matteson, Roger Frechette, Andy Frichtl

"We wanted to be a democracy," Frichtl explains. "We felt we had some strong representation from the East Coast with Roger Frechette, and Hormoz Janssens representing San Francisco and Hawaii. We quickly found that as a group, we each had strong opinions on how things should be done, but once we talked through stuff, each person would back the decision that was decided on. We felt it was just the perfect structure for where we are today. We don't always see things the same way, but we all row in the same direction."

The managing-principal structure also allows this quartet of engineers to still be engineers. "Even though we're managing principals, 70 percent of the time we're still working on projects with our fellow designers," Janssens says. "That's very different from the colleagues we talk to running other firms. All of our managing partners are like that: very technically adept and very hands on."

The managing-principal structure is a way to find strength in diversity. Says Frechette, "There's a voice in the group that is very conservative, from the point of view that the company is successful today and if it's working you don't try to fix it. Another voice is very aggressive, saying change is good. You have some who are primarily focused on profitability or focused on staff growth and development. If we had one of us as president, it would certainly take the company further in one of those directions. But as it is, it balances these different considerations."

Approaching the third decade of the 21st century, Interface remains busy around the world and embracing of new ideas and innovations in sustainable design.

Take the International Finance Corporation's new Global Headquarters in Dakar, Senegal, set for completion later this year. Designed by Sir David Adjaye, the IFC Headquarters is designed to be the first building on the entire African continent to achieve zero-energy status. Then there is the American Geophysical Union headquarters in Washington, DC, designed by Hickok Cole Architects and completing this year as well. A renovation of the AGU's circa-1990s facility, it's the first existing commercial structure in America's capitol city to achieve zero energy.


Above /
American Geophysical Union Headquarters
Zero Energy + LEED Platinum Goals
Mark G. Anderson Consultants (MGAC)
© Beth Bagley

"This building's mechanical systems were coming to the end of their useful life," Frechette explains. "They looked at moving out into a different building, but the president of the AGU, who also happened to be a former American Institute of Architects president, said they needed to not just renovate the building but to think about transforming it to be in better alignment with the mission of the organization. They began to ask the question, 'Is it possible to renovate an existing building in an urban neighborhood to be zero energy?' We ran all kinds of studies. There were tremendous obstacles. It's within the Dupont Circle preservation zone. There's no land associated with the building for renewable energy at grade. But we found a way to accomplish that zero feat. It's choc-full of green innovations, some of which have never been done in the DC area before, and some never before in the US. It's the highest scoring LEED renovation project ever." Most notably, the American Geophysical Union headquarters is heated and cooled using water from the city's sewer system, which is a first in the United States.


Above /
American Geophysical Union Headquarters, Zero Energy + LEED Platinum Goals
Mark G. Anderson Consultants (MGAC)
© Jessenia Villanueva

Looking ahead, Interface is excited about the innovative projects set to open in the 2020s.

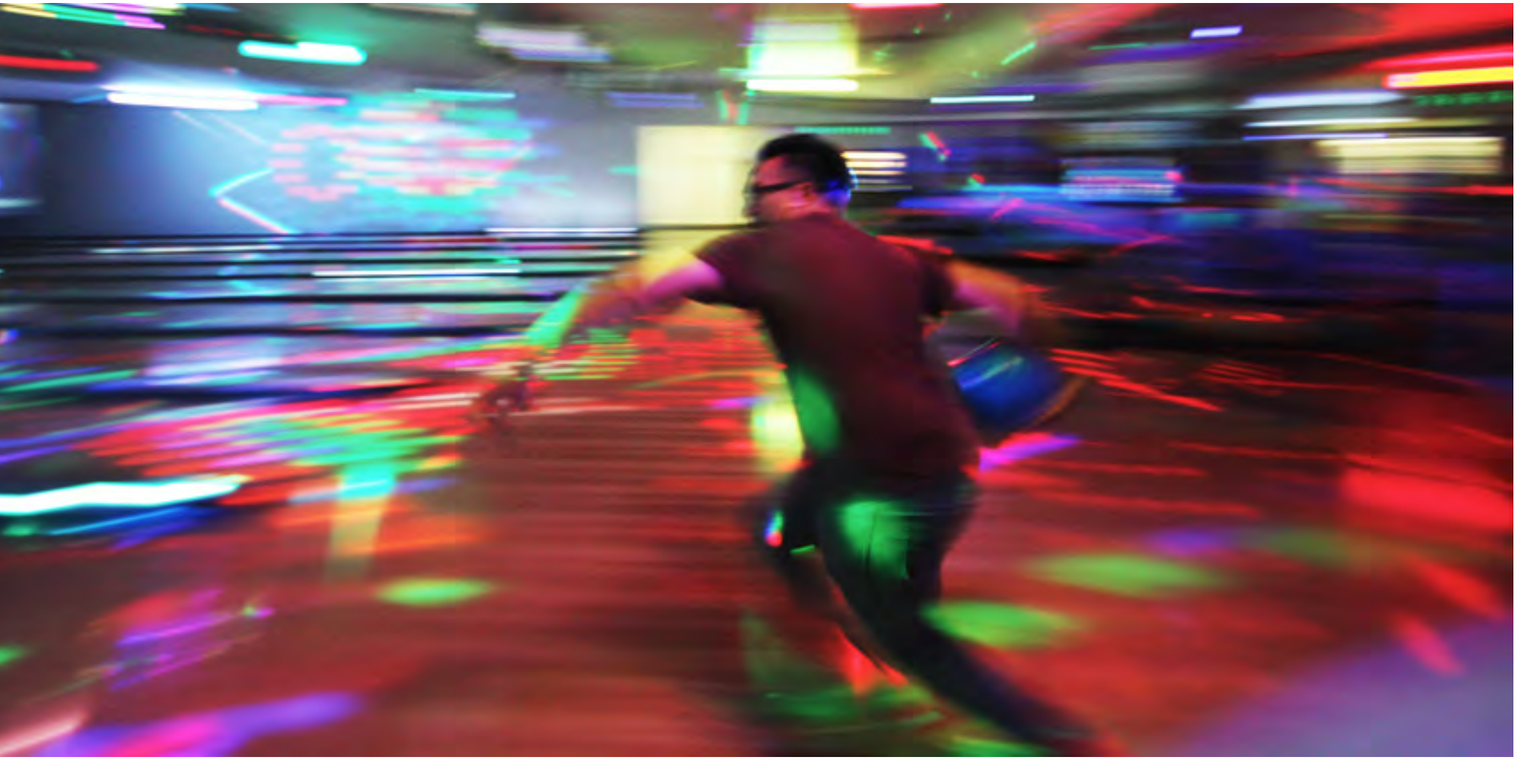
2020, for instance, will mark the completion of the Adidas America headquarters in Portland, which takes advantage of one of the most enduring building materials, wood, in a new way. Designed by Lever Architecture, the multi-building project will be built with cross-laminated timber (CLT), which is as strong as steel and concrete, yet better seismically performing and, because wood sequesters carbon, it helps fight climate change. "Working on the Adidas headquarters expansion has been exciting," says managing partner Rob Matteson. "The current approach to CLT and exposing this skeletal and wood structure created an opportunity and challenge for us mechanically on how to integrate systems."

**I THINK THE COMPANY'S WILLINGNESS TO KEEP MOVING FORWARD ATTRACTS THE RIGHT PEOPLE, AND ALLOWS THEM GROWTH WITHIN THE COMPANY.”**

2022 will bring completion of the Yellowstone National Park Youth Campus, designed by Hennebery Eddy Architects in a commission secured via design competition. The campus of buildings will be the first in a national park to meet stringent Living Building Challenge standards. The campus will also seek PHIUS+ 2015 passive building certification. All of its wastewater will be treated onsite, making use of a high-efficiency central utility plant. The project's design has already won an Architecture 2030 award from the American Institute of Architects.

As Interface Engineering moves forward, the firm will continue to evolve: in its array of expertise and experience, in its culture, and in its leadership structure. But evolution and diversity are key ingredients in that future. "We're always ready to evolve and to think about not just what makes us a successful business but what how to have quality employees and longevity," senior plumbing designer Scott Holum says." We have a lot of people who have been here a long time, their whole careers even. I think the company's willingness to keep moving forward attracts the right people, and allows them growth within the company, including the changing culture that becomes necessary as new generations come through."

Above /
National Park Service Yellowstone Youth Campus
Living Building + Net Zero Energy Goals
Hennebery Eddy Architects



From left /
SF Staff Bowling Event

LA Office Hiking Club



From left (clockwise) /
Richard Benney & John McMichael
ACEC Awards Celebration

LA Escape Room, 2018

Adam Carlson,
Hood to Coast Relay

Shem Heiple,
1st & Main Open House

SF Staff Happy Hour

From left /
Mission Peak Hike, 2017

Hood to Coast, 2018

**PEOPLE ARE FIRED UP AND WORK HARD. AND EVERYBODY IS HERE TO ADVANCE IN THEIR CAREER AND GROW. THAT CREATES STRONG TEAMS AND POSITIVE WORK CULTURE.”**

Left /
DC Office, 2018




CHAPTER FIVE /

# Interface Today

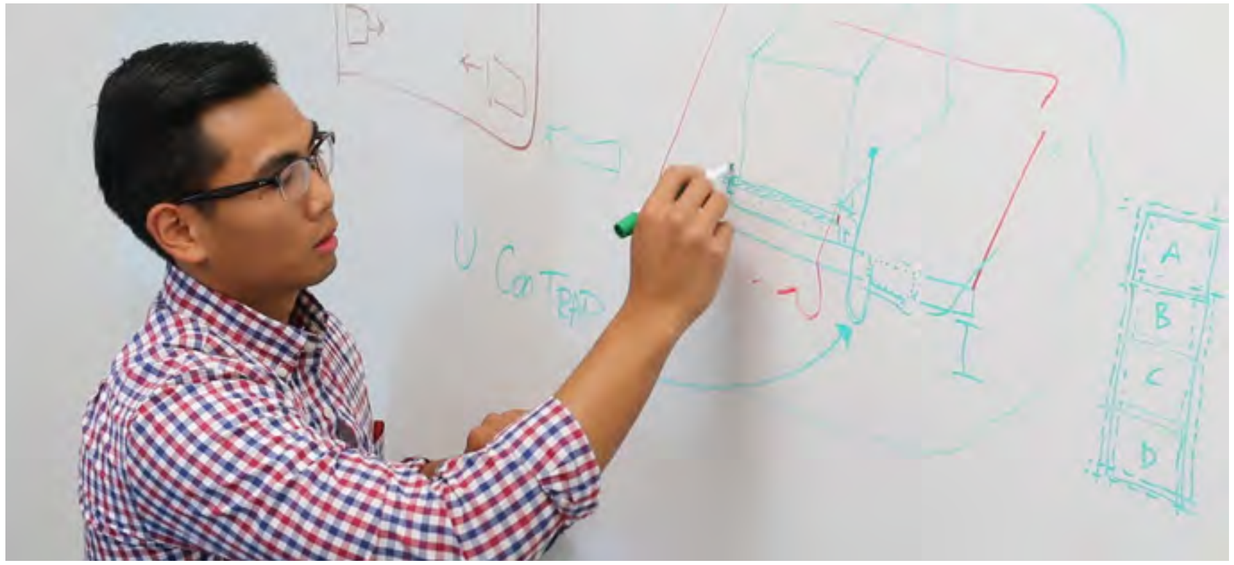
A common challenge in business is for a company to survive its founders: to succeed with a new generation of leadership. Interface's success has been built not just on creativity and dependability, but also on a culture that encourages innovation while providing staff opportunity to advance and grow as engineers and leaders.

So what are the values that have guided McGinnis Engineering, McAN Engineering and finally Interface Engineering on this half-century journey?

*Change, Risk, and Preparation*

It starts with embracing change. Recalls principal John McMichael: "Dan and Jim were willing to shake things up. They created the ESOP to put the company in the hands of its employees, which not many other consulting firms of that size back then even thought about. They revamped the structure of the company by creating teams, one of the best things we ever did. As we went along, we moved the company downtown to be closer to our clients. Then there was this green wave: LEED, sustainability, seeking out new means of energy and water conservation. A lot of the sustainable stuff we talk about the most excitedly today wasn't even invented when Dan and Jim started their careers. But they set it up."

"What are our values? We value change. We evolve," McMichael says. "That's gotten us where we are today. I think in the simplest terms, it explains all of this. We've had some struggles, some learning curves. You learn from your mistakes."



**TO FIND A MORE EFFICIENT SOLUTION FOR THE SAME BASIC COST AS TRADITIONAL CONSTRUCTION, THAT'S SOMETHING SPECIAL ABOUT INTERFACE.**

Change also is about a variety of project types, which the company seeks out. "It helps you get through the ebbs and flows of the economy," managing principal Rob Matteson says. "We look at the partitioning of our markets and try to make sure we don't have any more than 15 percent of our work load in any one market, to keep stable and to challenge our engineers to learn new things."

Embedded into the DNA of Interface is also a desire to innovate, particularly as it relates to sustainable design. "What makes me the proudest is people seek us out for our innovation and expertise in sustainability," Andy Frichtl says, "because it's something we believe in strongly. The fact that we're not afraid of taking on risky strategies that other people haven't done: I'm most proud of that, and the fact that everybody at the firm seems to be on board with it."

*Wisdom and Trust*

If Interface sees a competitive advantage in embracing innovation, that's balanced with a sense of responsibility toward the long-term good of the project. The client has to trust one has their best interest at heart. "You see a lot of teams or firms jump at the new shiny object," Frechette says. "The attitude toward sustainably for us is less is more. We think about passive strategies first, and systems that are easy to maintain. Architects and structural engineers design buildings that will last 100 years, but historically MEP systems get torn out in 15-20 years because there are so many moving parts. If you design something simpler, it's more sustainable. That focus on passive and simplicity in design has led to innovation in itself."

Ultimately any investment is rooted in cost-consciousness. "That dictates everything," says associate and senior energy analyst Steve Gross. "To find a more efficient solution for the same basic cost as traditional construction, that's something special about Interface. We're selling high performance designs at the same cost. These best projects are innovative but affordable."

Part of that recipe is a willingness to advocate to the client and for the client. "I'm constantly trying to remind junior people, 'Don't think of this as somebody else's money. Feel that sense of ownership," Janssens says. "Tell the client, 'You can save a lot more energy this way. Are you willing to try something new?' That's part of the entrepreneurial side: you're understanding their business pressures and you become a kind of partner in their success. That's what you're being judged on."

To put it another way, "We call ourselves consultants and not engineers," says principal Jim Sattem. "There's a reason for that. A consultant is more than someone with expertise: it's an expert you can trust."

*Independence*

Over Interface's half-century, there have been many ensuing opportunities to sell or merge the company to become part of a larger entity. For others, that may be the right move. For Interface, maintaining independence has been key.


Left / Westley Anastasio

Above / Steve Gross

"I think we're Goldilocks-sized," Frechette says. "We're not too big and we're not too small. There's a lot of MEP firms in this country, and a lot of them are relatively small: the eight-to-20-person range. They just don't have the bandwidth and the resources and the technical depth to take on too much. We have experts in so many different areas, but we're not one of these thousand or multi-thousand-person behemoths where it becomes difficult to get anything done and you're not nimble enough to respond to opportunities. I think we're in the sweet spot between the two."

**IT'S AN EXCITING OPPORTUNITY TO BE AN ENGINEER, BECAUSE THEY'RE ANXIOUS TO HEAR OUR INPUT AND HELP THEM MAXIMIZE THE OPPORTUNITY ON A PROJECT.**

Maintaining independence is in part about paying it forward: assuring there's a firm to hand over to the next generation without the risk of a larger parent losing its way. "Every time the temptation to sell has come up, the response has been, 'We can't work for a firm where we can't drive the decisions,'" managing principal Hormoz Janssens says. "We tell our staff, 'We're building this firm for you, for the next generation of leadership.' And we can't go back on that word. I'm proud that we've been able to do that."

*A Good Partner*

To rank among the most sought-after firms, engineers must not only be an advocate for clients but also a good partner to the architects, general contractors and other building team members. "Twenty, thirty years ago an architect would design a building and then come ask us to design the systems for it. Now from Day One we're involved in the process: shaping the buildings, orienting the buildings, just to take advantage of every opportunity to enhance performance," managing principal Rob Matteson says. "It's an exciting opportunity to be an engineer, because they're anxious to hear our input and help them maximize the opportunity on a project."

It's not just a matter of engineers and architects complimenting each other, but thinking together about design in a borderless way. "When I came to Interface, I was looking for was an engineering firm that embraced integration of architecture and engineering," associate principal Troy Lowell says. "One is seen as technical stuff and one is seen as artwork. Those are the two extremes. But we're finding a need to merge those back together."


Above /
Glen Walson

The best projects come when an array of building-team members from different firms feel a sense of cohesion. “I’ve worked with them for the last 25 years. They’re just good partners,” says Matt Dolan, managing principal at Portland civil and structural engineering firm KPFF. “We need them for some of the stuff we do and vice versa. What comes to mind is the way they go about the work. It’s about being a team player. They’re always willing to sit at the table and talk. The fun part is trying to come up with the best solutions for what we’re working on. Some people say, you can’t do that. But that’s not true for Interface. They’re willing to embrace change. There’s a lot of pressure on the MEP side, with sustainability, to reinvent the wheel or come up with a better mousetrap. They’re not afraid of that. But they’re also responsible enough to tell you when something’s too expensive. They’re good to be at the table with.”

Portland architect Sid Scott, co-founder of Scott Edwards Architecture, who has worked with Interface on more than 100 projects, says the firm’s first-rate track record on sustainability is emboldened by consistency and dependability. “It’s been the relationships that we’ve developed,” he says. “I know that they’re going to be there when I need them. When the stuff hits the fan, we’ll be a team and we’ll get through it. I value that a lot.”

Above (3rd from left) / Rick Russell

Left /
DC Office Volleyball Team,
2019
Above /
Portland Community Outreach Group,
2018

*Teams and Teamwork*

People at Interface also place importance on the team-based structure within the company, which allows Interface to retain the nimbleness of the smaller firm it once was. “I’m just a huge fan of that,” says principal Andrew Lasse. “Having smaller teams, you work closely together. We collaborate across teams every day, but we’re also engaged in a kind of healthy competition amongst teams to come up with new ideas. Yet we still retain the resources of a larger company. It’s exactly what I was looking for and still am.”

“There are challenges at times,” adds associate principal and IT manager Joe Schmid. “But teams allow you to have these little family units that are close-knit and know what each person is capable of.”

Breaking the company down into teams created a greater sense of accountability and even meritocracy, says senior plumbing designer Scott Holum. “When I started in 1978, it was a relaxed atmosphere: going to play hoops for 15 minutes to see who buys the soda pop from the vending machine. There was a point in the company’s growth, maybe when the electrical group joined us, that exceeded the founders’ ability to directly manage it. It was becoming harder to have accountability. It took a while to get to the idea of teams. But when we did, the thing that impressed me was it made everyone more entrepreneurial. Everybody was looking to see where the profits were. That propagated reaching for higher quality projects. And I think it helped shine a light on people who were doing the best work.”

If a larger company can flourish by breaking down into smaller teams, the flipside must also be true: that teams and, in Interface's case, offices in different cities are able to collaborate and help each other. "We're working together and talking all day every day," Lasse explains.

"We come together every month to have what we call exchanges, to basically share ideas and challenges and experiences so we can all learn from them and find ways to collaborate and support one another. People will come with an issue they can't get past or a tough lesson they want to learn. The same goes for all the team leaders. We have our own gatherings on a monthly basis to talk about things on a project-management level. It's all about exchanging information and connecting as individuals."

*Opportunity, Mentorship and Advancement*

As Interface Engineering has grown over the years, there has always been an emphasis on growing leadership from within the company. But that path to leadership has become more structured over time.

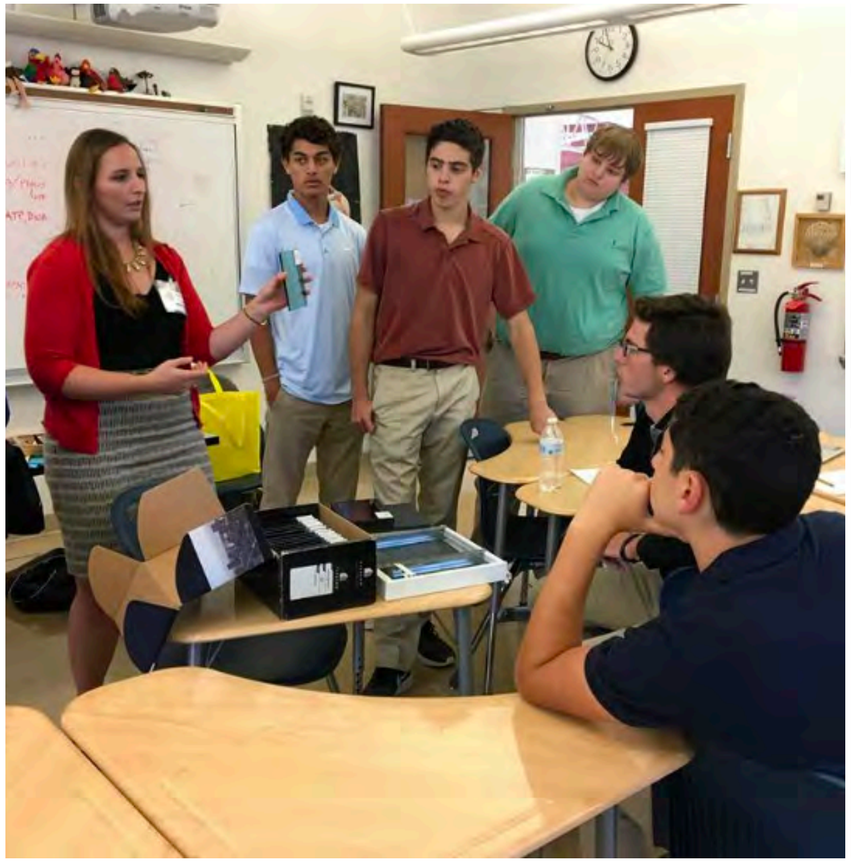
"It was a question we raised close to 15 years ago. How does one become a principal? We didn't have a path," recalls principal Steve Dacus. "So we created an internal group to define it. The result was our Pathway to Leadership document. We identified attributes of future leaders, including guidelines. It said, 'This is what you need to demonstrate.'"

Continually grooming a next generation of leaders is part of what allows Interface to maintain its independence, says Matteson. "We want to be the employer of choice," he explains. "We want to attract the best and the brightest and retain people. You need to provide not just benefits and compensation but opportunity."

Providing opportunity is, crucially, accompanied by mentorship along the way. "You hear about teaching hospitals. I think we're a teaching engineering firm," Dacus says. "Everybody's learned from the previous generation. We have these monthly exchange meetings for plumbing or mechanical or electrical. It's the senior people educating younger designers, and sometimes it's the reverse. I think that's probably one of the things that I'm most proud about at Interface."

Above /
Brandon Volbeda & Kim Wall, STEM outreach training

Right /
Grant Kleinman & Bharat Shukla, team meeting




Above (clockwise) / Samantha Patke, Flint High School

John McMichael, CLSB tour

Troy Lowell, Andrew Lasse & Molly Halstead

Jonathan Larsen & Westley Anastasio

Sometimes empowering and encouraging talented people is also about recognizing broader trends. Engineering has traditionally been a male-dominated profession, which makes it all the more important that today's firms encourage gender balance and, to extend that sense of equity, actively seek diversity. "When I was in college, I'd be in classes of 30 people as the only female. And at my previous firm I was the only female engineer," recalls principal Shawn MacLean. "There's a hurdle that you kind of have to get past in terms of being able to communicate and to be seen as someone with authority. When I came to Interface, there were quite a few women working there as engineers." Becoming the second female principal at Interface (following general manager Beverly Markstrom) and the first with engineering training, "I definitely see that as being able to open doors to others," she says. "I've had other women in the company say to me it's nice to have a woman in that position they can look up to, and to be reminded that it is possible. We're still the minority, but I do think things are changing."

Diversity of talent is a means of enabling a diversity of ideas. But those ideas have to be explored. That's why Interface's in-house research and development grants are a core of the company's culture. "You can pitch your idea to the managing principals, kind of like the TV show Shark Tank, and you can get a budget and a timeline to pursue it," explains Markstrom. "Whatever makes things better."

Left /
Beverly Markstrom

Right /
Shawn MacLean

*Taking Care and Having Fun*

Change, independence, teamwork, equity, opportunity: these values form the foundation of the company. But the final piece is how the Interface family takes care of each other. The approaches to staff retention and sick-leave are perhaps telling.

**THE STAFF IS NOT JUST A GROUP OF ENGINEERS BUT FAMILY MEMBERS AND FRIENDS AND COMMUNITY MEMBERS.”**

“I remember during the Great Recession, a lot of our competitors and clients were laying people off,” associate principal and IT manager Joe Schmid recalls. “I was impressed that the company’s management team took a pay hit so we didn’t have to lay people off. That’s something not every company does, and not everybody’s leadership is looking out for the rest of the company like that.”

Then there are informal moves like the approach to time off. “We also have a PTO donation program where when unexpected life events happen to people, the principals are asked to donate some of their PTO to help that person out,” Markstrom explains. “And they always do. There are those life events that take you for a significant time out of the office. We covered one gentleman who had only been with Interface for us for a month when his wife went into labor early. He had no time off accrued. But we said, ‘Go home for a month. Take care of your family.’ I like that. Another gentleman here, his mom needed to go into assisted living on the East Coast. It took a while to help set her up. Again, we said, ‘Just go. We’ll cover you.’ He was gone for six weeks. He came back with tears in his eyes: ‘You don’t know what that meant.’ We didn’t have to cover that. But it’s the right thing to do.”

A family atmosphere is also about camaraderie. The company makes sure to take time for barbecues and bowling, picnics and parties. And while sometimes a booming economy and tight deadlines mean working overtime, there is an emphasis at Interface on work-life balance. The staff is not just a group of engineers but family members and friends and community members.

And it is a collection of enthusiasts: people with passions in and out of work. Managing principal Andy Frichtl has spent years working with his father to rebuild a house on the Columbia River out of reclaimed timber. Managing principal Hormoz Janssens not only plays guitars but also takes apart and rebuilds them. Associate principal Wesley Lau is devoted to his faith, spending hours every week volunteering. Associate Steve Gross co-owns a sailboat with several friends and loves being on the water: not only the exhilaration and freedom it provides, but the chance to—like a true engineer—“take advantage of the natural forces around us without a negative impact,” he says. “It goes a little deeper for me.”

Above /
White Salmon Raft Trip

Left /
Honolulu Team Outing

Jim Sattem & Jesus Rodriguez,
Habitat for Humanity Build

SF Archery Tag

From left (clockwise) /
Eddie Pacaoan,
Halloween Party

Sophia Phillips & Isabel Nogales,
LA Happy Hour

Portland Staff,
Solar Eclipse

SF Staff,
Bowling Event

DC Office,
5 Year Anniversary Celebration

Perhaps that's the essence of being on staff at Interface Engineering: to go a little bit deeper—in knowledge and passion, in opportunity and teamwork, in advocacy and responsibility. In 50 years, as Interface has grown from a small mechanical engineering firm in Gladstone to one of the largest independent MEP firms in the country, what's become clear is that the journey is the destination: to design ever-more efficient and intelligent systems, to continually get more out of finite resources, and to serve others by empowering the entire team.


Above /
Washington, DC Office
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