

ConXtech's Prefabricated Structural Systems

Imagine a Meccano® kit or Erector Set® that's sized for real buildings. In 2004, ConXtech founders imagined this very thing - and the result was a patented system for steel erection that has been accelerating projects and delighting general contractors ever since. ConXtech's effectiveness and success are due to the elegance and simplicity of its system. Each steel member is engineered and precisely fabricated, and ConXtech's patented moment collars and gravity connections are attached at the factory – making it easy for ConXtech crews to slot members easily together on-site without field welding. In many cases an entire building structure can be assembled by a crew 1/3 the size of a traditional steel erection crew.

The system is simple by design, making it easy to specify, price, and install. The kit of parts includes the company's signature moment frame collars, plus a wider variety of connections and assembly details suitable to address a broad spectrum of building requirements.

This white paper will provide a basic understanding of the ConXtech system that will be specifically useful for engineers and architects, along with helpful tips for owners and general contractors – along with some guidelines on best project application and practices for using the system on your projects. First - a brief introduction to the spectrum of components that ConXtech has developed for rapid connection at the jobsite:



Our Original Special and Intermediate Steel Moment Frames

ConXtech Moment Frame Beams & Columns

For 20+ years, Conxtech has been at the forefront of steel frame connections, revolutionizing the construction industry. Our journey began with the ConXR 200 System, laying the groundwork for efficient and reliable connections. Building upon this success, the ConXL 300 and 400 Systems were introduced with innovative features that transformed the way structures are assembled. These three basic system offerings under ConXtech's patented moment frame system address different building types and sizes. Each system features a standard tube steel or boxed column with prefabricated collars, with a range of beam profile sizes (spans) available within that system type.



CONXL 400

The CONXL400 is the most robust and widely used system, and is well suited for healthcare, MOB, commercial and institutional sectors. The wider bay sizes offer the most flexibility for office spaces that change over time. This system features 16'' HSS or boxed columns and bay sizes can range from 18'-45'.



CONXR200

The CONXR200 is well suited for high density residential, hospitality, senior and student housing projects because of its lighter structure, and smaller column sizes. The system features 8" HSS tubed steel columns and bay sizes can range from 8' - 24'.



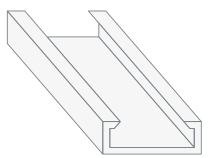
CONXL 300

The CONXL300 is well suited for process industry pipe racks, manufacturing, and certain office environments. The system features 12" HSS or boxed columns and bay sizes can range from 12' - 30'.

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All ConXtech steel members, connection collars and flanges are precisionmanufactured to order and quality inspected in the shop environment to ensure tight tolerance and perfect fit-up in the field. The patented features of the collars and the specialty fixturing used in the shop neutralize quality issues and imperfections of rolled steel, allowing for guaranteed fitup every time, with beam-setting speeds under 10 seconds per piece. Crews guide the beams into position above the joint and let the specialty connector plates fit the member into a fully secured and aligned position under the influence of gravity, using hands-free Lower and LockTM technology built into the connectors. Crews are able to perform all of the main steel erection from the safety of elevated work platforms, as opposed to a traditional method, where workers are required to climb upon beams and columns to align and bolt (or weld) connections using hand tools.

The ConXtech erection method, facilitated by "lower and lock" connections, enables crews to erect a single bay to full height (8 stories or the maximum working height of the elevated work platform, whichever is less) before erecting adjacent structural bays.



Conventional Connections and Steel Framing

While the drivers of acceleration on a ConXtech building are its special ConXtech connections, the system is entirely versatile, and ConXtech collars might be paired with more traditional steel elements such as brace frames and moment frames where more appropriate on a given project. During the Schematic Design phase, the ConXtech engineering team can help to reduce or eliminate the number of field-welded conditions to optimize for erection speed during construction.

"When we teamed up with Conxtech again, we knew that they would be exponentially quicker in the process then with typical steel."

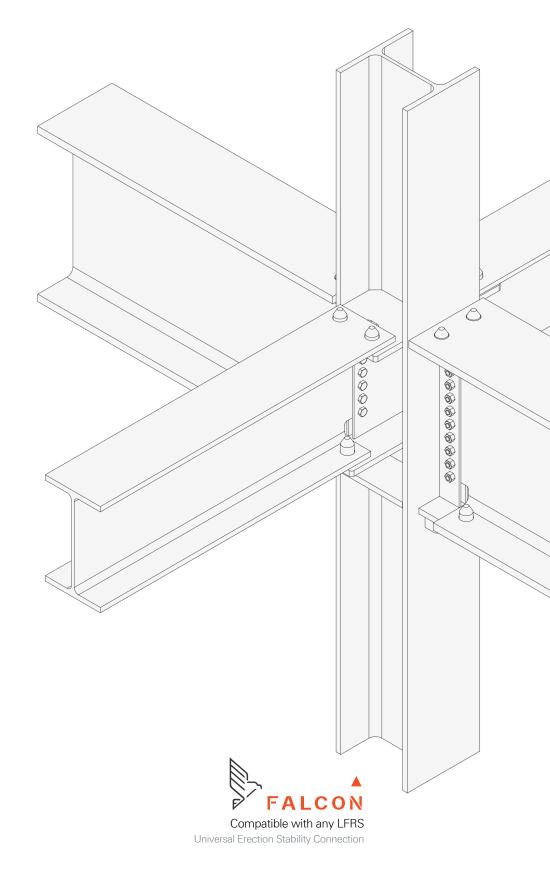
Introducing:



Universal Framing Solution

We're excited to unveil our latest breakthrough for the midrise structural steel market: Falcon. Drawing on decades of experience as a builder and as a provider of innovative steel products, this new highly adaptable gravity system redefines structural assembly efficiency and speed. These patented lower + locking gravity connections facilitate steel erection 3-5x faster than traditional forms of steel erection. On a project greater than 100,000 square feet, this can mean weeks or months of schedule savings.

The ConXtech Falcon gravity solution works with any Lateral Force Resisting System, including braced frames, making it an ideal solution for data centers, life sciences, and advanced manufacturing facilities.





Adopts the SEOR's design outright, minimizing disruptions to the existing design. A gravity system that can be paired with any LFRS.



Uses conventional steel components that are readily available at any mill or service yard.

Domestic or international supply chains can be utilized to offer the most cost-effective execution strategy.

calable

Allows for a competitive bidding pool. Any qualified fabricator or erector can build a Falcon design, making every fabricator and erector a partner and not a competitor to ConXtech.



Results in an offering that is on par with the conventional steel market from a sustainability standpoint.

ime-Saving

The principle of "Lower & Lock" technology now brings speed of erection and unprecedented safety to the steel erection market for any mid-rise building.

Falcon Advantage

Overview

ConXtech's legacy moment frame products still offer pronounced advantages where brace-free and flexible program spaces are prioritized. However, with Falcon, ConXtech adopts, rather than replaces, the SEOR's Lateral Force Resisting System. This enables ConXtech to service any steel mid-rise building, including braced frame buildings, meaning ConXtech is now a solution for a broader range of your projects than ever.



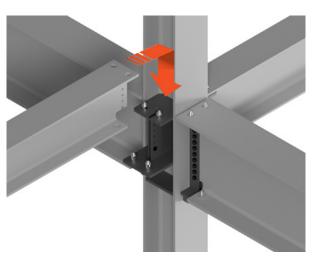


Special Moment Frame

ConXtech's bi-axial moment frame solution is perfect for this market given system attributes and cost versus competing solutions.

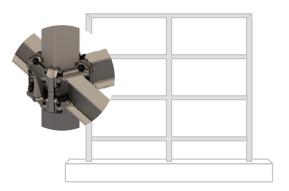
Braced Frame

ConXtech now offers **Falcon**, a lower + locking gravity system that accelerates project schedules and is compatible with any LFRS (patent pending).



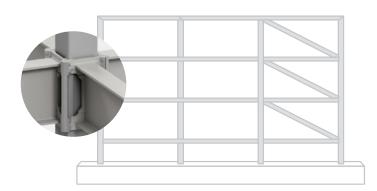


Steel Framing System Comparison



Moment Frame

- Open floor plan
- No sheer walls or bracing
- Moment frame acts as lateral system



Braced Frame

- Lateral force system supported by braces
- Larger spans and member sizes

Cultivating HVRs

ConXtech has multi-year working relationships with the end-use Clients / Owners and Design Engineers & General Contractors based on its proven track record; this shared success is the basis for significant repeat business.



Kit of Parts

Due to the repeatability of the system, our standard kit of parts offer consistency throughout yet allow for site specific customization of the lateral force resisting system as required.

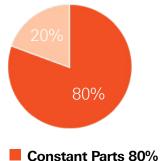
Kit of Parts

80%-90% =constant 10%-20% =variable

Prototype Variable Part List:

- Seismic Lateral Bracing/System
- Non-Seismic Lateral Bracing





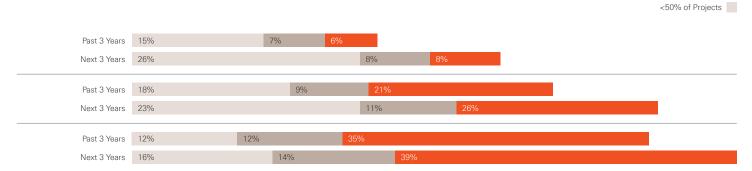
Prototype Constant Part List:

- Gravity framing & connections
- Moment Connections
- Decking
- Base Plates
- Anchor Rods
- Clips, angles and other small parts
- Galvanized roof dunnage
- Galvanized roof screens
- Egress Stairs
- Elevator support steel

ConXtech: A Unique Accelerator in the Structural Engineer's Toolkit

Percent of Projects with Prefabricated Single Trade Assemblies

(Past 3 Years and Next 3 Years by Type of Company)



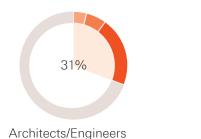
Prefabricated and modular methods of construction are not new, but their use is surging across the global construction sector. Global markets have experienced a significant uptick in demand for everything from pre-manufactured assemblies to volumetric modular apartments built offsite. Real estate developers are driving much of the sector's growth, hoping to achieve faster construction schedules that produce earlier revenue and lower overall carrying costs. In their 2019 report, Modular construction: From projects to products, McKinsey researchers brought wide attention to the positive impacts of offsite construction manufacturing – finding that certain forms have a consistent track record of accelerating project timelines by 20% to 50%.

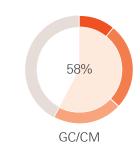
Offsite constructed systems range from prefabricated roof trusses to fully-finished, factory-built housing units, and the use of such systems is on the rise. In a report published by Dodge Data & Analytics, Prefabrication and Modular Construction 2020, 31% of engineers and architects, and 58% of general contractors reported that using some form of prefabrication meaningfully improved overall project timelines. Almost 70% of architects and general contractors in the Dodge study anticipated specifying single-trade prefabrication over the next 3 years.

In addition to project schedule acceleration, moving complex building assemblies into a controlled factory environment promotes improved safety, sustainability, and quality metrics.

Impact of Prefabrication on Project Schedule Performance

(Percentages Reporting Each of Three Levels of Improvement)









>75% of Projects
50-75% of Projects

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Factory & Jobsite Integration

Benefits

Increased Labor Productivity

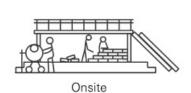
Less Waste

Highly Skilled Workforce

Improved Jobsite Efficiency

Quality Control

Advanced Technology





Labor Productivity Increases by 30% on Offsite Projects

Source: McGraw Hill

End-to-end LEAN process, from manufacturing through erection.

Shifting labor from the jobsite to the factory.

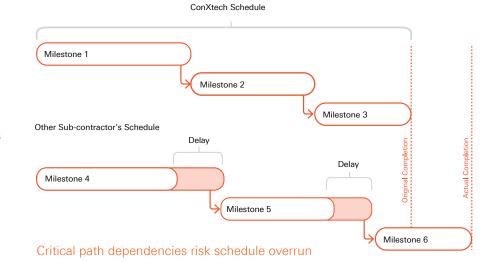


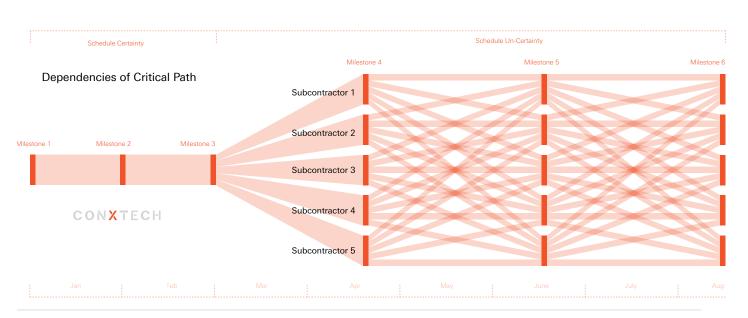
Extending factory precision to the jobsite



Critical Path Impact

- ConXtech impacts critical path directly
- We are the only subcontractor that can reliably claim schedule savings
- · Following the completion of ConXtech's scope, multiple subcontractors begin working simultaneously effecting each others' critical path



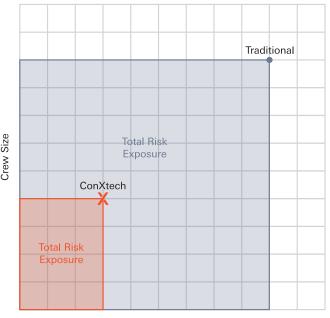


Safer Steel Erection Sequencing

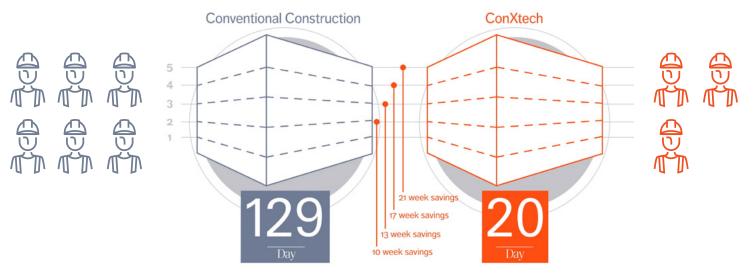
- · Crew works out of baskets, not walking the steel
- Beams drop into place less than 6 secs
- Smaller crew size + less labor hours = Less exposure to risk







Total Labor Hours



About 1/2 the crew size and 1/2 the labor hours

Industry leading interstate EMR

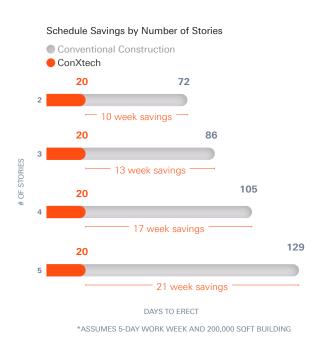
ConXtech's riggers and connectors work from the safety of high reach mobile work platforms operating in delineated fall hazard exclusion areas, enabling them to quickly and safely move from work point to work point.

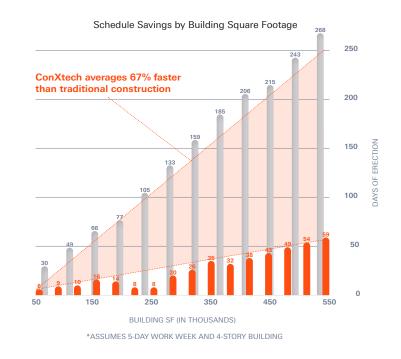


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ConXtech vs. Conventional Construction:

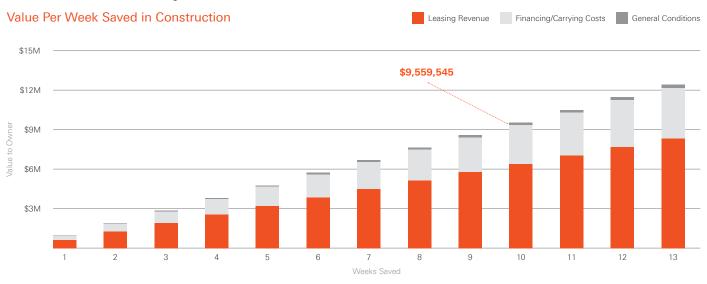
- Magnitude of savings is proportionate to magnitude of project
- On average, Conxtech is 67% faster



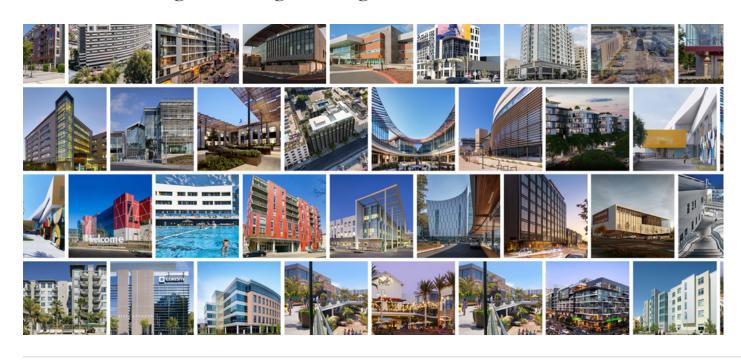


The economic impact of these schedule savings is substantial. On a recently constructed data center project, one client analyzed the economic benefit of using ConXtech on his project.

Time is Money:



Unlimited Design and Engineering Possibilities



Why ConXtech is Faster

Streamline method of erection Built-up is Built-in

Traditional

Multiple people per joint in precarious positions



Conxtech

Work out of man-basket, only one person needed at joint to easily lower and lock into place (not even one man...only one hand)



Billboard/X-tree Installation speeds assembly time

Traditional

Tiered Erection – mired in redundancy



Conxtech

Billboarding – instant stability +fewer "at risk" hours onsite



No lost time to inspections, testing and reworking

Traditional

Field weld testing/inspection leading to re-work



Conxtecl

ConX simplifies inspection





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ConXtech Structural Steel Building Platforms:

Commercial/Retail

ConXtech is an ideal structural solution for Commercial/Retail applications offering accelerated installation schedules as well as simplified layout and future programmability.

Schedule

- 2x-5x faster than conventional steel and concrete
- Accelerated schedule from concept through construction
- Accelerated approvals

Safety

- 50% reduction in field labor- fewer "at-risk" hours
- "Lower and locking" connection provide instant stability and alignment prior to bolt-up
- Erection done from aerial baskets
- Precision fabrication translates to repeatable standard work and perfect fit in field

Cost

- Up to 10% lower structural system cost vs conventional steel (incl savings in GC/GRs) depending on region
- Reduced carrying costs and interest reserves required
- for development financing
- Easy integration of other trades due to standard, modular componentry

Asset Value

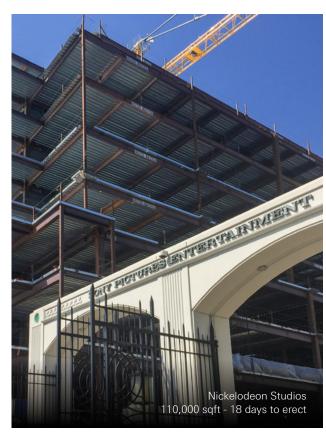
- Increased schedule leads to faster occupancy
- Safer, higher performance facilities
- Lower overall risk and greater predictability due to systems approach
- Reduced Noise, on-site waste, and disruption to neighboring facilities
- Flexible structural system is easy to customize

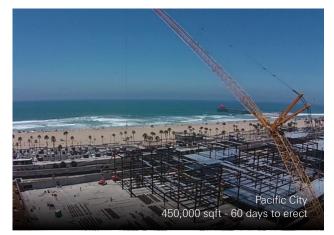
Use Cases

- Projects that are schedule driven:
 "WE WILL GIVE YOU A MONTH!"
- Projects that require schedule certainty:
 "CONXTECH HAS NOT MISSED A SCHEDULE EVER"
- Projects that require pricing certainty:
 "AS A MODULAR SYSTEM WE CAN GIVE YOU A DEFINITIVE PRICE (+/- escalation) FOR YOUR CLIENT!"

We Are ConXtech: This is Our Story - Video Link







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Contra Costa County Administration Building

Location	Martinez, CA
Description	County Administration Building
Size	71,000 sqft
Time	25 Days to Erect Steel
Owner	Contra Costa County
Contractor	Hensel Phelps
Engineer	Thornton Tomasetti
Architect	Fentress/KMD
Туре	ConXL 400



Pacific City

Huntington Beach, CA
3-story Retail Complex
450,000 sqft
60 Days to Erect Steel
DJM Capital
C.W. Driver Builders
FWC Structural Engineers
SMS Architects
ConXL 400



CoastHills Credit Union

Location	Santa Maria, CA
Description	Commercial Office
Size	102,000 sqft
Time	18 Days to Erect Steel
Owner	CoastHills Credit Union
Contractor	Specialty Construction
Engineer	John A. Martin & Associates
Architect	Arris Studio Architects
Туре	ConXL 400





The Village at Totem Lake

Location	Kirkland, WA
Description	Retail Complex
Size	117,000 sqft
Time	8 Days to Erect Steel
Owner	CenterCal Properties, LLC
Contractor	Robinson Construction Co.
Engineer	John A. Martin & Associates
Architect	IBI Group
Type	ConXL 400



The Depot

Location	Los Angeles, CA
Description	Adaptive Reuse
Size	77,000 sqft
Time	10 Days to Erect Steel
Owner	The Luzzatto Company
Contractor	KPRS
Engineer	KPFF
Architect	HLW International
Type	ConXL 400



Google Bayview

Location	San Jose, CA
Description	Commercial Office
Size	1,200,000 sqft
Time	N/A
Owner	Google
Contractor	Whiting-Turner
Engineer	Thornton Tomasetti
Architect	BIG + Heatherwick Studio
Type	ConXL 400



Lawson Lane

Location	Santa Clara, CA
Description	Commercial Office
Size	152,000 sqft
Time	15 Days to Erect Steel
Owner	Sobrato Development Company
Contractor	Sobrato Construction
Engineer	N/A
Architect	Form4 Architects
Туре	ConXL 400



Nickelodeon Studios

Location	Burbank, CA
Description	Commercial Office
Size	110,000 sqft
Time	18 Days to Erect Steel
Owner	Accord/BRO Members, LLC
Contractor	McCormick Construction
Engineer	Englekirk
Architect	DLR Group
Туре	ConXL 400



1130 K Street

Location	Sacramento, CA
Description	Pavilion Office Addition
Size	42,000 sqft
Time	5 Days to Erect Steel
Owner	White Star Construction
Contractor	Bauen Development
Engineer	Miyamoto
Architect	Vrilakas Groen Architects
Туре	ConXL 400



ConXtech Leadership



Adam Kurtenbach
Vice President of Business
Development

Adam Kurtenbach has been in the modular construction industry for over 20 years. He joins ConXtech from KATERRA, where he was most recently the Director of Business Development for the PNW. In this role, Adam was responsible for oversight of almost \$500 million in project sales. Previous to his stint at Katerra. Adam ran Business Development for Urban Edge Builders (UEB) where he helped establish their Seattle office and was involved in bringing the first high-rise to the University of Washington district in over 30 years; The M. Adam is a firm believer in the power of innovative, modular, sustainable building practices and their ability to change the built environment for the better. A long-time hockey and lacrosse coach and player, Adam believes in the parallels between these sports and the construction industry; namely, grind to succeed, be accountable every day, and team before individual.



Josh DeLehman
Senior Director, Business
Development

Mr. DeLehman joins ConXtech with 15 years of experience in engineering and construction for the energy, mining, and infrastructure industries. His roles have included senior positions in both Supply Chain Management and Business Development, with an emphasis on construction support services and manufacturing. A common thread in Mr. DeLehman's career has been risk mitigation through shifting work from the job site into controlled shop environments where certainty of cost, quality, schedule and safety are more readily achievable. This focus is expected to serve Mr. DeLehman well as he works to grow ConXtech's core business. Mr. DeLehman holds a Bachelor's of Science in Business Administration from the University of North Carolina at Chapel Hill's Kenan-Flagler Business School.



Jeremy Michels
Key Account Manager

Jeremy has 26 years in the steel industry with 16 years in the structural and miscellaneous steel space. Having roles as a Senior Business Development Manager at Construction Specialties Platform Solutions and President of Platform Manufacturing Group, Jeremy has a wide range of skills he brings to each client. The last 12 years Jeremy has had a focus on modular and prefabrication and implementation in the construction industry. Jeremy believes in leading from the front and providing solution-oriented planning for his customers. His years of experience help inform clients on best practices that save time and money. He has experience in many construction markets to include, Multi Family, high rise residential, schools, manufacturing facilities, industrial, commercial and data centers. Originally from Montana, he started his career as a blacksmith doing high-end forged wrought iron.



Joseph Fatzinger
Business Development Manager
East Coast

Joseph brings a wealth of experience and a proven track record in the structural steel construction industry to ConXtech. With extensive experience in complex projects, Joe has successfully managed and worked on highrise construction projects, as well as data centers, bridges, stadiums, government facilities, hospitals, and universities in the Northeastern United States. His expertise will be invaluable as we continue to provide innovative structural steel solutions that accelerate projects and enhance efficiency across the East Coast.



Adam Browne S.E, P.E
Chief Engineering Officer

As the CSEO, Mr. Browne is responsible for ConXtech's standardized calculations and design methodologies. He also provides technical recommendations and guidance to outside engineering firms working with the ConX System.

Mr. Browne is a licensed California structural engineer with over 20 years of experience. He has a bachelor's degree in mathematics from the University of California at Santa Cruz and studied structural engineering at San Francisco State University before joining the firm BFL/ OWEN in 1994. Before joining ConXtech in 2012, Mr. Browne was the EOR at FBA and Associates, responsible for the structural design on the first 2 million square feet of ConX structure. There, he was integral in establishing acceptability of the framing system with various building departments and jurisdictions.



Stephen Boyd
Vice President, Technology &
Operations

As VP Technology, Stephen is responsible for ConXtech's core products, as well as the hardware, software, processes, and systems needed to successfully execute ConX-based projects. He is a passionate technology leader and innovator driving scalability for ConXtech's products and setting the stage for longterm growth. As one of the engineers responsible for the XL300 industrial system, Stephen has developed a deep knowledge of the ConXtech product portfolio and all of the underlying systems enabling its success. He has led crossfunctional engineers to drive product improvements and scalability that have enabled successful deployment and implementation of ConXtech technology.

With a Bachelor of Science Mechanical Engineering degree from Union College, Stephen's background gives him exposure across engineering disciplines.

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Thank you.

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