We make construction easy.



Find out how.





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lt shouldn't be this easy.

A Senior Project Manager describes the impact of collaboration with the VEC team on a \$2.5B airport project.



Our Purpose: to make construction easy Letter from our Founder

One year into our partnership on a large aviation project, I decided to personally check in with the Senior Project Manager representing our client. I asked him about his company's job performance, the definitive metric of our VDC team's contributions. He leaned back in his chair and admitted, **"I probably shouldn't be telling you this, but it shouldn't be this easy."** A statement like that has likely never been made in the history of airport construction. Building airports is incredibly complex; the stakes are astronomical, and delays are not an option. Still, our partner's perception was that things were moving along **effortlessly**. In reality, our VDC team was orchestrating a monumental effort. It was through applied expertise, seamless collaboration, and meticulous planning that we fostered an atmosphere of calm and collectedness. The result? Significant reductions in labor hours, rework, material cost, field disputes, and delays — not to mention a lack of unquantifiable cost/time impacts and headaches.

Growing up as the son of a handyman and contractor, I gained an appreciation for working with my hands that grew into a passion for building. Prior to starting VEC, I served as a project manager in electrical construction, supporting projects throughout the San Francisco Bay Area. My jobs ranged from tunnels to highways, high-rises to hi-tech campuses. Despite their location, the technology capital of the world, almost every project shunned innovation and ran into the same problems the industry had dealt with for centuries. After a decade of grappling with identical issues over and over and over again, I realized I had to create the change that AEC so desperately needed. From real-world construction experience and an intimate familiarity with the challenges inherent to project delivery came the founding of VEC.

Our slogan is, **"We Make Construction Easy."** We recognize this is a bold statement — it should be. We fiercely pursue a trajectory of limitless impact on the AEC industry. We exist to reinvent the way things are done, a mantra that has made us leaders in the technological revolution currently transforming AEC. In under three years, we've organically grown to 115 team members and completed over 100 projects. Our team meets every challenge with the same conviction: those with the ability to accomplish something great have the responsibility to make it happen.

Better together,



Shane Saltzgiver Founder & CEO

Our solutions

Empowering construction with advanced technology at every stage



Building Information Modeling (BIM)

- ✓ BIM for MEP Systems
- Design & Engineering (A/E)
- ✓ BIM for Design Optimization
- ✓ BIM for Virtual/Augmented/Mixed Reality (AR/VR/MR)
- ✓ BIM for Value Engineering (VE)
- BIM for Operations/Facility Management (FM)
- BIM for Project Financial Analysis



As one of our VECore Values, "Better Together" implies we believe strategic partnerships allow each party involved to multiply their unique added value, accelerating the re-invention of our industry and the project delivery process as a whole. VEC's services are ever-expanding as we identify opportunities to eliminate client risk and project inefficiencies, plank-by-plank.







Virtual Design & Construction (VDC)

- ✓ VDC Modeling & Detailing for MEP Trades
- ✓ VDC Installation (Shop) Drawings
- ✓ VDC Prefabrication Design
- ✓ VDC Scheduling & Estimating
- ✓ VDC Preconstruction Planning
- ✓ VDC Bid Pursuit Support
- ✓ VDC Visualization & Simulation (4D)



Over the past decade — the last three years, in particular — the AEC industry has undergone the first phase of a fundamental transformation. Project delivery methods are rapidly evolving in every sector. The benchmark for performance is no longer "you're only as good as your last job," but, "you're only as good as your last deliverable." This is an unprecedented time in our industry, and companies that can't adapt

Onsite Technology

- ✓ Construction Photo Documentation (HD360)
- ✓ MEP Layout (Robotic Total Station)
- ✓ High-Definition 3D Laser Scanning (HDS)
- ✓ As-Built Modeling (Scan-to-BIM)
- ✓ Unmanned Aerial Vehicle Mapping (UAV)
- ✓ Asset Labeling & Tagging for FM
 - Pre & Post-Pour Concrete QA/QC

Coordination Management

- ✓ BIM Trade Coordination
- ✓ Design & Construction Clash Detection & Resolution
- ✓ 3D Cloud Sharing & Model Coordination
 - **Construction Logistics Planning**
 - Constructability Review & Optimization
- Resource Planning & Optimization
- ✓ Data & Document Management

Our blueprint

for the AEC technology revolution

ßß The best way to predict the future is to create it.

				PREDICT	ABILII	ΓY	
	TECHN	OLOGY					
		QUAL	.ITY				
					SPEED		
		SCAL	ABILITY	,			

We bring process innovation. You bring construction expertise. Together, we achieve peak quality faster.

Achieving better outcomes starts with innovative thinking and efficient execution. BIM and VDC services are not currently standardized in any way; providers can vary wildly in their offerings, from, "I know a guy who does BIM," to national software resellers that have been forced to perform BIM services in-house to remain competitive. Typically, BIM providers specialize in limited solutions that can only be deployed at specific phases of the project lifecycle. This stems from a lack of real-world AEC experience, design and constructability knowledge, and a minimal understanding of the problems inherent to project delivery. For instance, many firms are proud of achieving a beautiful model during BIM coordination, but lack the capacity to ensure their model is optimized for field installation, or even adhered to throughout construction. Such situational providers are eventually forced to "pass the baton," resulting in minimal ROI for all owners and contractors involved in the project.

At VEC, we've achieved complete vertical integration, mastering the implementation and execution of design and construction technology at every stage of project development. We rely on our foundational experience in project delivery, as well as our understanding of the critical issues solvable through technology and process overhaul. The following section illustrates the flexibility we've displayed in adapting our support to existing projects; it explains our vision for how project delivery can function with the right team and the right tools.

— Abraham Lincoln

Core services

Depending on each individual client's preferences and internal capabilities, VEC can provide support with any number of the categories that comprise Mechanical & Electrical BIM. We pride ourselves on our adaptability, integrating seamlessly with each client's process and leveraging expertise that will elevate every step we're involved in.



Build faster and smarter

for the AEC technology revolution

The two existing methods of project delivery are Design-Build and Design-Build. Our track record of over more than a decade and 100 projects enabled us to create a new path forward. Our revolutionized project delivery relies on the early deployment of the latest BIM techniques. Contact our team to discuss how VEC can unlock unmatched time and cost savings for your projects.

1	Less BIM – traditional design
2	More BIM – design/build team
3	Max BIM – early in design process & 100% system spatial coordination
4	For renovations of existing facilities, 3D laser scan the facility and develop BIM of existing conditions
5	We create the "Lego Kit": MEP installation drawings, Bill of Materials (BOM), system layout points
6	Equipment and material buyout by owner
7	Contractors bid on the "Lego Kit" and include price/unit breakout per material quantities
8	Installation 100% from kit
9	Provide robotic total station layout for all installation per the coordinated BIM
10	Any owner-driven changes are incorporated by VEC into the design and construction models and fully coordinated, then estimated cost impact is provided for owner review. If the owner proceeds with the change then we revise the installation "Lego Kit" and a CCO is issued to the impacted contractor(s) per the price/unit breakout provided at bid (with escalation if applicable).
11	3D Laser Scan or 360 photogrammetry throughout construction for QA/QC, progress tracking, as-built documentation
12	Hand-over to owner and operations team fully coordinated models and drawings accurate- ly reflecting the as-built condition and support custom HMI integration. Owner uses this for blueprint foundation for next D.C.

Design-Build

COST PROJECT



Design + Pre-con

Construction

TIME

Our experience

Aviation

Charlotte Douglas International Airport Los Angeles International Airport - Delta T3.5 Connector and Sky Way

San Francisco International Airport - BAB - Hallowed Oaks Playground

San Francisco International Airport - Boarding Area B (BAB)

San Francisco International Airport - Boarding Area C (BAC)

San Francisco International Airport - Courtyard 3 Connector (C3C)

San Francisco International Airport - Ground Transportation Unit

San Francisco International Airport - INT Terminal - Baggage Handling System

San Francisco International Airport - INT Terminal Building Renovation

San Francisco International Airport - T1&2 - American Airlines

San Francisco International Airport - T1C - Baggage Handling System

San Francisco International Airport - Terminal 1 Center (T1C)

San Francisco International Airport - Terminal 3 - Baggage Handling System

San Francisco International Airport - INT Terminal - CBRA A&G

Commercial

1823 El Camino 650 Clyde Court Mountain View 840 Brittan Ave. 901 Battery St. citizenM Hotel - 72 Ellis St. GAP Corporate Headquarters JUUL Labs Headquarters TI Kilroy Oyster Point Waterfront Campus Washington State Convention Center WeWork Lord & Taylor

Data Centers

CoreSite NY2 Confidential social media client Confidential technology client Confidential data centers management client

Institutional

Columbia University Fighting Lions Gymnasium IBEW Local 332 - JATC Madera High School Palcare Child Care Center SVCS Maximize Campaign UC Berkeley - Bakar BioEnginuity Hub UCSB - Student Classroom Building UCSF - Student Housing UCSF - PHYS Sewer Repair UCSF - Block 23A UCSF - Center for Vision Neuroscience UCSF - Neurosciences Research Building UCSF - Child, Teen & Family Center and Department of Psychiatry Building UCSF - PHTS ACC UCSF - Student Housing

Energy

PBF Energy Cat Cracker TIR FAB 2

Healthcare

AbbVie - Lighthouse - West Coast Oncology Hub Amgen Chemistry and Biology Labs - 18N Children's Hospital of The King's Daughters Ivy Mountain Musculoskeletal Center Kaiser In Vitro Fertilization Clinic MedStar Georgetown University Hospital MERCK Plant - Building 150

Mixed Use

Oceanwide Center San Manuel Casino SERIF Residences & LINE Hotel - 950 Market St. Augusta National Golf Course - Global Broadcast Village Table Mountain Hotel & Casino

Public Works

Pacific Gas & Electric - Salinas Office Presidio Parkway SF Department of Public Works - Engineering Revit Training SF Department of Public Works Headquarters - 49 South Van Ness SF Fireboat Station No.35

SF Public Utility Commission $\mbox{ - Oxygen Plant}$

Rail

BART Embarcadero and Montgomery Stations Clearance Analysis BART Transit Operations Facility LAX Transit Corridor - Crenshaw

Residential

30 OTIS St. Four Seasons Private Residences - 706 Mission St. Modera Rincon Hill - 390 First St. Morning Star Assisted Living Facility One Steuart Lane - 75 Howard St. Ritz-Carlton Union House - 2465 Van Ness 108 NAGLEE

Tech

Adobe Hooper Apple Campus 2 Asana Headquarters - 633 Folsom St. Autodesk - The Landmark @ One Market Facebook Campus - MPK 22 & 23 Facebook Campus - MPK 62 & 63 Facebook Windsurfer Campus Google - Central Utility Plant - 1390 Borregas Google Bayview Google Landings Google Landings Google Plymouth Google Yaught Club Google 129th RQW CAANG - California Air National Guard Relocation

Scalable growth



Diverse project types



Diverse clients







Confidential national data center client

The two existing methods of project delivery are Design-Bid-Build and Design-Build. Our track record of over more than a decade and 100 projects enabled us to create a new path forward. Our revolutionized project delivery relies on the early deployment of the latest BIM techniques. Contact our team to discuss how VEC can unlock unmatched time and cost savings for your projects.





Our client's management and the facilities groups wanted to improve on this situation especially when faced with expansion plans and a market increase for their business. After an initial consultation period to assess their facility management (FM) operations, VEC provided campuswide as-built and existing conditions mapping and modeling. Once this phase was complete, VEC was engaged to produce a visioning video demonstrating how a common-data structure could be implemented with existing FM systems and databases to build a Virtual Data Center FM program.



Confidential social media client

After moving into their new, Frank Gehry designed headquarters, MPK20, in 2015, our client continued its expansion westward across a complex and congested site; constructing the campus of tomorrow to manage its platform capabilities and better connect to its data centers around the globe. VEC provided high-definition surveying and mapping for the existing underground utilities at Facebook's Silicon Valley Campus, using a combination of traditional survey, 3D LiDAR scanning, UAV aerial orthophotos, and GPR utility locating services.





VEC's previous experience working with the Project Designer and General Contractor led to our selection as the provider of detailed 3D modeling and coordination between existing and proposed backbone underground utilities. VEC worked closely with the Design-Build Team to understand our client's goals from a facility management standpoint, taking time to assess and investigate the significant project site challenges at play.



Confidential technology client

When our client recently won a billion-dollar US government technology contract, it immediately sprung into action, renovating one of its aging data center facilities. Our client selected a large, national electrical contractor to serve as the general contractor for the entire project (with a particular focus on the electrical and communications installations). Recognizing the emphasis that our client places on technology, this general contractor asked VEC to provide fully-integrated, turn-key construction technology implementation on the project.



VEC provided turn-key, fully integrated construction technology solutions

Including:

- + As-Built 3D laser scanning
- + Daily GC BIM Coordination Management
- + A Cloud-based construction coordination technology platform
- + Information flow management and organization
- + 3D laser scanning for installation QA/QC verification
- + Model-based MEP construction layout

It's no wonder this client calls VEC their "easy button."





+ Electrical and Communications systems detailing and installation plans

As is often the case, our client's facility had little as-built documentation; the few records that existed didn't instill confidence in the Design and Construction team. To address this challenge, VEC deployed our Site Technology team to 3D laser scan and verify the as-built locations of the structural beams, column layout, bracing, and penetrations within the Colo's. With this crucial information, VEC led the construction BIM coordination team and provided Electrical Modeling and Detailing for deep construction coordination. We resolved clashes, optimized electrical and communication routing, and ultimately ensured constructible installation plans would be delivered to our long-standing client. Once construction begins on the project, VEC will ensure installation goes as smoothly as possible by preparing thousands of MEP layout points and a model-based MEP construction layout at the site.



Preview our work



The VEC difference

What sets our company and our people apart

What makes us different than the other BIM, VDC, or Construction Technology companies? HINT: it's not software or hardware - we generally use the same tools.

We are like water, flowing into every feature of the project; fully integrating with our client and their team, constantly identifying and analyzing problems and inefficiencies, then fluidly and collaboratively eliminating or mitigating them, one-by-one. The sooner we get involved with a project ideally at its inception — the deeper we can flow into all processes, resulting in massive ROI for our clients.

We make construction easy.



adjective 1. not hard or difficult 2. free from pain or worry, without conflict

synonyms uncomplicated, simple, calm, effortless

"Supreme good is like water. Water greatly benefits all things, without conflict. It flows through places that people loathe."

- Lao Tzu

Our blueprint

Technology at Our Core – We are builders and designers, first and foremost, that have learned how to wield the power of technology and evolved processes to make project delivery easy.

methods available. We speak construction.

Proactivity & Agility - We understand existing project delivery processes and know how to adapt them to the modern evolved form of project delivery. We share this knowledge with our clients and provide guidance at all project stages. Most clients are highly effective in traditional project delivery processes but are unaware of the new processes developed in the past few years. We bridge that gap.

Value-Driven Questions - We ask a million questions to deeply understand the means/methods, because if we don't grasp exactly how the field team plans to build every part of the project, we cannot deliver a BIM and install drawings that reflect that plan. We also provide means/methods suggestions for our clients' consideration, based on the 100+ other projects we have delivered.

Extreme Ownership - Our discipline and drive on projects is unrivaled, and we take on the client's interest and challenges as if they were our own. We cannot succeed unless our client succeeds.

effort or hours that will take.

during tough situations.

solve a problem

Quality Beyond Expectations – We have set the bar for quality high, and we never stop raising it. We look 3 years back at our early projects and laugh at our BIMs and field packages. At that time, our process and quality was second-to-none and resulted in massive value, but we challenge ourselves every day to improve, driving the quality of our products and service higher every year

Risk – We understand our client's risk and contractual requirements. We help identify risk and the data needed to mitigate it - or get compensated for the impact.

Proactive, Value-building Collaboration - Empower our clients to do what they do best: build, design, and deliver projects. We do what we do best: align technology to your existing processes and recommend new processes to increase efficiency, quality, and profit.

Constructability Knowledge - We understand how projects are physically put together, as well as the varying means and

Commitment - For some reason, most issues arise in the field after 2pm, and usually on a Friday. We do what is necessary to get the field team the data they need, when they need it, to keep them moving efficiently - regardless of the

Relationships – We understand that construction is not always easy, and tensions are high, so we prioritize our personal relationships with our clients. We understand your challenges, speak your language, and work even closer with you

Process Ownership - We customize our project delivery technology solutions based on the actual problems and inefficiencies at hand. There are 25+ software and hardware tools in our tool belt, but we only deploy them when they can

VEC global team

Exceptional people behind exceptional results







vec-us.com





About tomorrow

Our capabilities and the future of a partnership with VEC

Building each other up.

Goodness

We create a safe space for our employees and support them in ethical decision-making.

Extreme Ownership

Our clients' problems become ours to solve; their definition of success is what we strive for.

Curiosity

We'll never stop exploring new, better ways to solve problems.

Better Together

We constantly challenge both our own limits and our clients' view of what's possible.

Balance

We help our team members find it between their personal and professional lives; we proudly offer company retreats, outings, and a career development program.

Our Mission: To Create Opportunity, Pursue Purpose, and Revolutionize

During our intense, early years as a startup company, we believed our mission was as simple as the services we provided. As the identity of VEC stabilized and standardized, however, we began reaching out to the team at company retreats and asking, "why?" Why were we having the positive impact that our customers kept affirming, or experiencing the type of growth that this proposal's metrics demonstrate?

We knew that we had a great product, and that we delivered incredible value, but to explain the nature of the feedback flooding in, we needed to look deeper. The first answers we found were immortalized in a banner of company values that hangs on the wall at our headquarters (left). Through stories our team members shared about the personal purpose they had discovered at VEC, as well as how they each understood our company's greater goals, we realized there was something special about the culture we'd built.

Connecting with our customers was the next crucial step of our reflection journey; countless conversations with everyone from CEOs to project managers to the contractors we saw daily at the job site revealed that the people we collaborate with (who put us under intense pressure, at times), had remarkable things to say about how we'd "transformed" their businesses, or "changed their lives." It definitively proved that partnering with VEC is not about hiring a "BIM company." Partnering with us means gaining an invaluable resource, driven by connecting people to the opportunity of achieving their unique purpose.

We practice **Goodness** by creating a safe space for our employees to do their best work, and supporting them in making the ethical choice when faced with difficult decisions. Our **Extreme Ownership** means your problems become ours to solve, your definition of success is what we strive for, and there is never a reason to resort to blame. **Our Curiosity** means that we will never stop exploring new, more efficient ways to solve problems. We realize that we are **Better Together**, so we constantly push our clients' vision by showing them what is possible with knowledgeable application of technology, and — as we make our mark on the industry and encounter resistance from the status quo — we push ourselves, to innovate even harder. Finally, we achieve **Balance** by helping our team members find it between their personal and professional lives; we proudly offer company retreats, outings, and a career development program.

Our track record suggests we're doing something special, but for us, that's just motivation to keep capitalizing on the amazing opportunities we have. We look forward to working with you to create even more of those, together.

Better together,



Leo Castillo Chief Operating Officer





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