OCTOBER 2024 | ISSUE 43 | QUARTER THREE

NEWSLTR

Faith Group

INTEGRITY
DIGNITY
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FEATURES:

TAKE IT ON FAITH: ZACH VARWIG - THE NEXT 20 YEARS

Owner/Principal Zach Varwig provides a view into where he sees Faith Group heading in the next 20 years in honor of celebrating our 20 year anniversary in 2024.

DATA CENTER EMERGES AS CORE MARKET

As the data center market grows, it has emerged as a new core market for Faith Group. Read about our work and capabilities in this market and how we might support your projects.

TECH UPDATE: BUILDING ELECTRIFICATION

Learn about the shift to building electrification and discover how cutting-edge technologies, such as heat pumps and geothermal systems are revolutionizing our spaces, making them cleaner, more efficient, and ready for a sustainable future!

Celebrating 20 Years in Business

Open House and Innovation Lab Opening

TAKE IT ON FAITH

ZACH VARWIG - THE NEXT 20 YEARS

Thank you to everyone that attended our 20th anniversary open house event in September. We really appreciate the support and positive engagement from our partners and clients. During the event, I gave a toast that talked a little bit about where we're headed as an organization, and Faith asked that I also share in this newsletter.

Faith Group sits at the intersection of advanced technology and facility engineering. As an industry leader, it's our job to stay sharp on the technical market forces; whether its modular construction, 3D printing, analytics, geothermal, artificial intelligence, etc. Staying sharp on technology may seem like the most important factor for success (and it is important), but it's not what our next 20 years will be about. We have to stay focused on exceeding our clients' expectations, leading the conversation within our industries, and creating a great place for our team to advance their careers.

Organizations look for trusted partners who own challenges and drive solutions. An apex service provider is someone who is responsible and accountable to the outcomes of their stakeholders (I'm quoting Pierre Racz here). Combining that with actionable deliverables and exceptional service is what truly sets us apart and has been foundational to our business growth.

We're constantly advising and supporting new businesses in our market, while starting new ventures of our own. Our ability to deliver design/build services through the partnership between Faith Group and our sister company Saefix, has blossomed in the last couple of years, with "it's about time" being the general feedback. Sometimes the market is more ready than you know. Getting out and talking with your clients and partners can lead you to future services, capabilities, businesses, and leaders.

While the details may change, the principles of success will remain the same. I'm looking forward to the next 20 years, but also the next few, to see where our industries and partners mature.

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- Data Center Emerges as Core Market
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- 20th Anniversary Open House & Innovation Lab Opening
- Tech Update: Building Electrification

IN THE NEWS: RECENT WINS

AVIATION

- Master Plan - Part B for Indianapolis International Airport as a subconsultant to Ricondo
- IT Consulting Services contract for Orlando International Airport
- Sr. Project Manager Staff Augmentation for Los Angeles International Airport
- Digital Content Management System for Los Angeles International Airport
- Security Policies and Procedures Review for Nashville International Airport
- SMS Manual Preparation for Palm Beach International Airport as a subconsultant to Ricondo
- SD9 2025 Airfield Mod 1 Projects SRMPs for Seattle Tacoma International Airport as a subconsultant to Jacobs
- DAS and Wi-Fi Operating Agreement Development for Hollywood Burbank Airport
- Telecom Room Assessment for Maryland Aviation Administration as a subconsultant to JMT
- Airport Response Coordination Center (ARCC) CONOPS, SOPs and Low Voltage Systems planning for Los Angeles International Airport as a subconsultant to Gensler
- Program Definition Manual for Shreveport Airport as a subconsultant to Corgan

FEDERAL

- Cybersecurity Design for Ft. Leavenworth Building 44 Renovation as a subconsultant to Benham
- Wallops Command and Data Acquisition Station (WCDAS) Operations Building for National Oceanic and Atmospheric Administration (NOAA) as a subconsultant to Citrine-Olsson JV
- Cybersecurity Services for Joint Navigation Warfare Center Headquarters for Kirtland AFB as a subconsultant to Stanley
- Low Voltage and Cybersecurity for Dorm Renovation at Vance AFB as a subconsultant to Benham

EDUCATION

- Student Center and Misc. Buildings Renovation for St. Louis Community College Meramec Campus as a subconsultant to JEMA

GOVERNMENT

- Parking Video Surveillance Assessment for City of Fresno as a subconsultant to Swinerton
- Crossings at Northwest Plaza Courts Renovation for St. Louis County as a subconsultant to JEMA
- Security Assessment of Multiple Facilities for Metropolitan Government of Nashville and Davidson Counties

COMMERCIAL

- Marysville, OH Industrial Warehouse for Opus AE Group

DATA CENTER EMERGES AS A NEW CORE FAITH GROUP MARKET

In 2023, Faith Group expanded its security services into the Data Center market through the addition of its first confidential hyperscale data center client. Then in 2024, we added our second confidential hyperscale data center client. Currently, we are serving these two industry (Fortune 500) giants by providing security planning and design services direct to the owners, as well as to third party data center developers. Faith Group is working in an on-call capacity with multiple ongoing task orders at various data center sites across the United States. With these key clients, we are beginning to develop a market strategy to add Data Centers as a new, permanent strategic vertical Market for Faith Group. The Data Center industry fits our core expertise to deliver systems for clients whose facilities are their business.

Faith Group's current work is centered around providing on-call security consulting and design services for industry leading hyperscale data center facilities, including single and multi-story data centers, associated electrical substation and switching stations, sensitive storage and destruction buildings, and other auxiliary facilities on data center campuses. We are providing programming, site due diligence, and master planning through the design and construction administration of access control, video surveillance, intrusion detection, and other specialty security systems. Prior to 2023, Faith Group had worked on a few data center projects with current clients focused on developing hosting strategies and providing MEPFP systems design to support these complex, highly secure facilities.

Going forward, Faith Group will position itself in the Data Center Market to provide a full-service approach to highly niche facilities, offering capabilities in consulting and design across a broad range of systems: security, information and communications technology, solutions architecture & hosting strategy, audiovisual, and MEPFP. In addition to traditional consulting and design, we also offer construction administration and commissioning services to assist our clients in mitigating risk and achieving successful program outcomes.

Data Centers are expanding at such a fast pace, the industry has struggled to find enough qualified, knowledgeable resources. Our systems and integration expertise paired with our work on highly specialized, complex, and secure facilities, puts us in an excellent position to help this high-growth Market expand its footprint.

Another major differentiator for Faith Group in this Market is our Innovation Lab where we have the in-house capabilities to run pilots, proof of concepts, and validate integrations and use cases for our clients. We also offer lab as a service as an additional value add for our clients.

Due to the confidential nature of these programs, if you would like more information on how we can best support your Data Center project, please reach out to us!

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FOCUS: GOVERNMENT

STATE OF MISSOURI - BOONSLICK SCHOOL HVAC UPGRADES

In collaboration with the State of Missouri, Faith Group designed and implemented an HVAC system upgrade at Boonslick State School. The State School, located in St. Peters, MO, is one of more than 30 in Missouri and serves K-12 students as part of the Missouri Schools for the Severely Disabled (MSSD) network administered by the State Board of Education.

The State needed to significantly overhaul the existing HVAC system, along with its Building Automation System (BAS), and selected Faith Group to redesign and improve its efficiency and operation. The new chilled water system involved replacing the outdated split bundle chiller with a new packaged, air-cooled system, significantly boosting energy efficiency. Faith Group designed a creative piping solution to allow the chilled water loop to drain back into the building, preventing frozen piping and chiller bundles. The design also introduced new pumps with variable frequency drives, which provided enhanced stability to the chilled water loop and allowed the system to adapt to pressure fluctuations.

Additionally, the chilled water loop insulation was replaced to eliminate gaps and improve overall insulation quality. The existing air handling unit (AHU) was also replaced with a single-zone, variable air volume (SZVAV) system, which optimizes airflow to better meet the facility's heating and cooling needs. This control strategy also addressed humidity issues from the old system.

A key aspect of the project involved upgrading the outdated HVAC BAS. The team designed a new web-based, Building Automation and Control Networks (BACnet) open protocol system allowing for the integration of building control products from different manufacturers. The BACnet now controls the SZVAV AHU, chiller, chilled and hot water pumps, existing hot water boiler, and classroom fan coil units. Control strategies incorporated SZVAV operation, an economizer cycle, and chilled water temperature reset.

From the initial schematic design to the detailed construction documents, Faith Group played a hands-on role throughout the project. The project is in construction, and the team is currently working to manage the implementation and will perform a final inspection to ensure everything is completed to the highest standards. The result will be a state-of-the-art HVAC system that exceeds expectations, delivering enhanced comfort and energy efficiency to Boonslick State School.

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LOREN BOYD PROMOTED TO DIRECTOR OF MARKETING AND JOINS LEADERSHIP TEAM

As of June 2024, Loren Boyd has been promoted to Director of Marketing and joins Faith Group's other Directors and Principals as part of the firm's Leadership Team. During her 13 years at Faith Group, she has held several roles within the company, most recently serving as Marketing Manager. Across these roles she has worked on a variety of initiatives and several clients' audiovisual projects, which have all contributed to her well-rounded understanding of all aspects of the business.

Loren has a Bachelor of Fine Arts (BFA) with an emphasis in Graphic Design from Southeast Missouri State University. She has been a member of the Society of Marketing Professional Services (SMPS) since 2014 and is a past Education Director for SMPS St. Louis Chapter. She continues to support the St. Louis Chapter by serving on the Education & Programs Committee. In the industry, she is most known for her involvement in the Airport Consultants Council (ACC). She has assisted with the Young Professionals (YP) Program for the annual ACC/AAAE Airport Symposium Conference since 2011 and took over leadership and management of the Program in 2022. Her dedication to the YP Program garnered her recognition in 2023 when she was recognized as a Top 40 Under 40 by Airport Business Magazine.

In her role, Loren will oversee pursuits & teaming, marketing strategies & initiatives, and the firm's brand to secure work and ultimately deliver successful projects with the firm's clients and partners. She will work with Market Leads to ensure business development efforts are in line with the firm's strategic and marketing goals. As a member of the Leadership Team, Loren will provide leadership, guidance, and oversight of strategic business initiatives to drive successful client project delivery and maintain an exceptional company culture.

"I'm incredibly passionate about connecting people, whether that be for building dynamic pursuit teams, sharing knowledge, or bringing more talented YPs into our firm and industry," says Boyd. "I look forward to this new role and influencing the direction of the company."

20TH ANNIVERSARY OPEN HOUSE

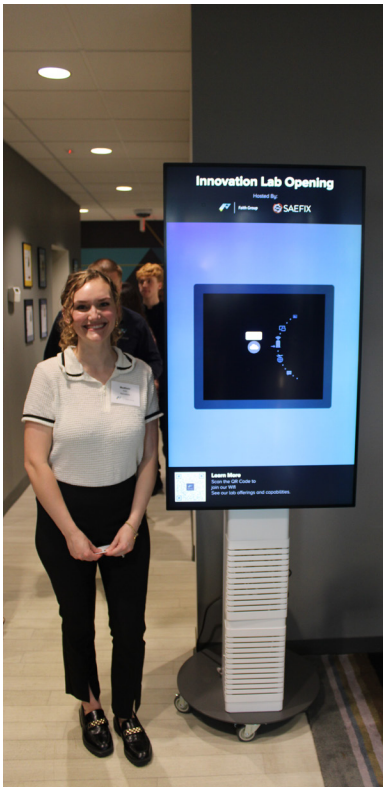
On Friday, September 20th, Faith Group hosted an Open House to celebrate our 20th anniversary and the opening of our Innovation Lab in our St. Louis Headquarters office.

With the help of our amazing Lab partners, during the Open House, guests had the opportunity to tour and take part in Lab experiences that were curated through custom configurations and integrations specifically for the event.

Thank you to 250+ guests who attended and made this event a success! We look forward to building upon the capabilities of our Innovation Lab and the next 20 years.

To learn more about our Innovation Lab, click HERE.

If you would like to get in contact with someone about our capabilities or to get a 1-on-1 tour, please reach out to Cary Gulsby, Professional Services Manager at cary.gulsby@faithgroupllc.com or at 719-243-3408.



TECH UPDATE: BUILDING ELECTRIFICATION

As our industry continues the push towards clean and renewable energy, there has been a significant upswing in the electrification of buildings. Many factors can be credited for this move; sustainability, decarbonization, new technology, and clean energy just to name a few. Several states including California, Colorado, Illinois, and Minnesota have policies and incentives for electrification, and more states are sure to follow. This tech update will define building electrification, describe the technologies enabling building electrification, and outline the path for transitioning from a traditional building to an electrified building.

What is Building Electrification?
The terms "building electrification," "beneficial electrification," and "building decarbonization" all describe eliminating the use of fossil fuels in a building, particularly for heating and cooking. The goal is to have buildings that are using more renewable energy sources generated with clean resources such as solar, wind and other sources of zero-carbon electricity.

Our long-term reliance on fossil fuels makes buildings one of the largest sources of carbon dioxide (CO_2) emissions, causing harmful climate change by trapping heat, and contributing to respiratory disease from smog and air pollution. As mentioned in the Environmental and Energy Study Institute's article, "Built Infrastructure: Climate Change and the Built Environment", in the U.S., buildings account for roughly 40% of the country's energy use and greenhouse gas emissions. These issues have created a need for decarbonization and a cleaner way to operate our facilities.

Technology Updates
With electric heating system choices having been limited, the main source of fossil fuel use in a building is typically the heating system. Traditional methods (electric resistance or radiation heat) are costly, offer little to no comfort control, and do not produce the same intensity of heat as fossil fuel heating appliances, creating a barrier to building electrification.

Recent improvements in technology have made the path to building electrification more viable. One major enabling technology of widespread building electrification are heat pumps. Unlike conventional furnaces or boilers, which burn fuels to produce heat, heat pumps use electricity to send heat where it's needed or remove it from where it's not, much like a refrigerator. And because heat pumps can either expel heat from the indoors during the cooling season or capture heat outdoors from the ground or air and draw it indoors in winter, they offer a two-for-one benefit: heating and air-conditioning from the same equipment. Heat pump technologies have become widespread and can be used to replace many existing heating appliances including central plant boilers, terminal equipment, air handling units, and domestic water heaters.

Central utility plants can be converted to provide heating and cooling from the same equipment. During cooling season, the central plant rejects heat to the outdoors through a heat pump or a series of heat pumps. During heating season, heat is pulled from the outdoors through the heat pump or series of heat pumps. Once this energy is in the facility, it can be used in many ways including a condenser water loop or a heater/chiller that makes hot or chilled water based on the season. Want to really boost the efficiency and sustainability of your system? Add some ice tanks to store or remove energy from during peak load hours to shave your building's heating and cooling season peak loads! Our MEPFP team has experience with ice storage and can help you design a system that fits the needs of your facility.

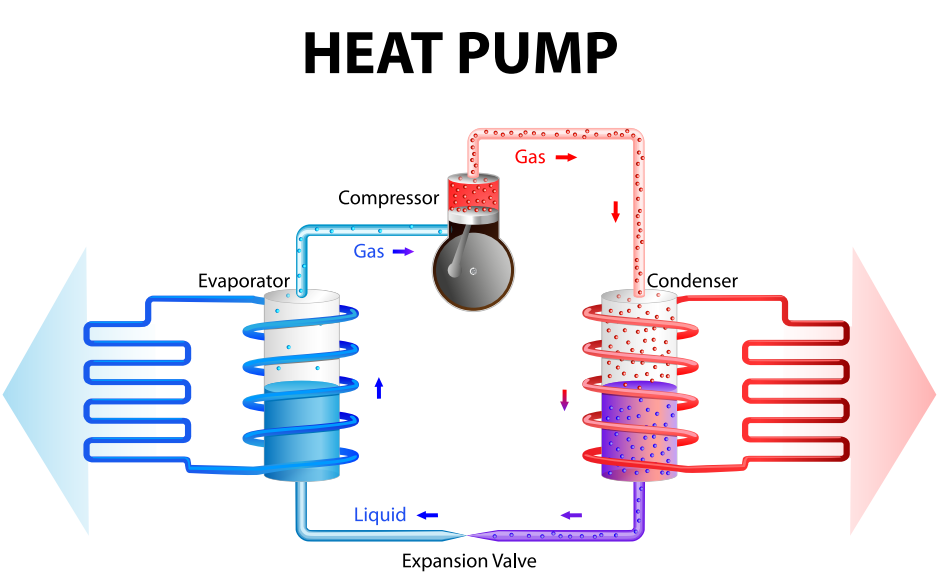
One specific use of a heat pump system is a Variable Refrigerant Flow (VRF) system, which provides simultaneous heating and cooling by using refrigerant to send heat where it's needed or remove it from

where it's not. VRF systems typically include fan coil units with a dedicated outdoor air system but others connect packaged direct expansion (DX) air handling systems to VRF heat pumps. This is cost-effective when compared to the fully electrified heat pump central plant solution described above, while also giving great comfort and temperature control. A VRF outdoor unit could also be connected to a series of existing DX air handling units to make an existing air system more effective and provide a means of electrifying the heating system. Faith Group has designed and implemented many of these systems for different building uses including operations centers, birthing centers, stacked telecommunications rooms, and many more.

Geothermal systems are another option for electrifying buildings. A geothermal system uses the constant temperature of the earth as a heating or cooling source, through a condenser water loop, and then rejects or absorbs heat as needed. This can be done through a series of vertical bore holes (up to 500 feet deep), a horizontal loop system, or using a nearby body of water. The indoor system can consist of a series of heat pump terminal units, or a central plant described above that makes hot and chilled water. Faith Group is currently overseeing installation of a geothermal system that we designed for the Administration Building at Philadelphia Airport and has designed several other geothermal systems using our GLHEPro software.

Heat pumps can also be used to heat domestic hot water. Domestic water heat pumps are readily available and pull heat from the air in the mechanical room and transfer that heat to the domestic water system. Larger systems can include a decoupled heat pump that resides outdoors to pull larger amounts of heat from the air. We specify heat pump water heaters on most of our projects.

In the past, many of these technologies have had limitations but today the cost to operate a building with electric heat has decreased. Heat pump technologies have improved dramatically and can now heat buildings in outdoor temperatures down to -12 degrees F and operate as or more efficiently than fossil fuel heating appliances. Many heat pumps now have a Coefficient of Performance (COPs) up to 4.0. Many improvements and smart technology upgrades have also been made to the national electric grid to improve its performance and sustainability to accommodate the shift to electrified buildings.



How to electrify your building?
It all starts by identifying the reasons for moving to an electrified building. Are you facing regulations? Do you have failing equipment? Do you want to be more sustainable? Once the motivations are understood, a plan can be crafted to meet the needs of the facility, the owner, and its users. An assessment of the existing equipment and power coming into the building is a good starting point.

For instance, let's say a client has a 10-year-old gas boiler that still has another 20 years of useful life on it, but the chiller is failing. The ideal scenario would be to keep the perfectly functioning boiler and install a new heat pump that produces chilled and hot water, still utilizing the boiler until it fails. The heat from the central system could be used to replace a domestic hot water system or to supplement the boiler. If heating and cooling loads are not the same as when the building was designed, a new central system could supplement that change.

There are endless possibilities and paths to an electrified building, and our Faith Group team has the tools and expertise to help you with any application. When you are ready to start tackling your building system challenges and begin preparing for a change to an electrified building, we are ready to leverage our industry-specific expertise to collaborate with you to create a plan that is right for you and propels your building forward.

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