

Category: 10 – Best Building Project – GC (under \$10M)

Contractor: Flintco, LLC

Project Name: DNET Engineering and Integration Headquarters

Colorado has the second highest number of private aerospace employees in the nation and is the first for private aerospace employment per capita. In 2017, Metropolitan State University of Denver opened the doors on a vanguard, state-of-the-art Aerospace and Engineering Sciences building on its campus at the Auraria Higher Education Center. Aerospace companies such as DNET Engineering and Integration, Ball Aerospace, Lockheed Martin, and NASA anticipate a growing need for new workers with a strong background in technology and project management at the bachelor's degree level. By partnering with MSU Denver, DNET's new headquarters can help foster top talent for project collaboration, product testing and hiring by providing student access to the same technology and software used in the aerospace and aviation industry. This tenant/partner ecosystem provides students with unique opportunities right on campus, and with DNET Engineering and Integration joining the ecosystem, the possibilities are even more rewarding for students to acquire practical work experience to augment their academic studies. As a partner to MSU Denver's aviation program, Flintco was contracted to complete the installation of a laboratory for DNET and faculty offices, as well as construct a new classroom to expand their ability to ready aviation students for a career in Colorado's expanding aerospace and aviation industry. This space increases DNET's opportunity to integrate technology payloads on test missions for the U.S. Department of Defense and NASA, ultimately helping the U.S. keep the leading edge of aerospace advancements.

Solutions of Special Projects

Renovations in an occupied building space consistently pose unique challenges. MSU Denver is an active campus, and the Advanced Manufacturing Sciences Institute was occupied during construction. Keeping the building operational was at the forefront of how we planned each work activity. We met weekly with the owner, consultant, design team, and building facilities management to discuss major deliveries, shutdowns, noisy or dusty work, and work that intruded into spaces occupied by tenants. By also requesting classroom schedules and working hours from

adjacent classrooms and third-party tenants, we ensured our activities were not obtrusive or disruptive.

The tenant immediately adjacent to DNET's new headquarters worked closely with the government on defense projects. Our team coordinated carefully with York Space Systems during electrical shutdowns to make sure we did not affect their operations and take their systems offline. During construction, it was discovered that data lines from York Space Systems ran through DNET's space. Through open communication and planning, Flintco relocated their data lines without disrupting their operations. Relying on as-built drawings and the maintenance staff during the tenant build-out, we located shutoff valves and disconnects to successfully complete the work with zero disruptions.

Time was also a big factor on this project. Due to a shortened construction window and the owner contract approval process, this project was under pressure to be ready for faculty and staff to move into their new offices and have classroom space available for the fall 2019 semester. It also had to be ready in time for its third-party tenant's lease. Adding to the restricted schedule, the Advanced Manufacturing Sciences Institute building was built several years earlier, and we needed to match the existing finishes during the tenant improvements. However, with only 7 weeks to complete construction, most of those finishes were in the long lead category, posing a challenge. For example, doors and hardware were an 8-week long lead time. Fortunately, our strong relationship with vendors and the ability to pre-order items before the contract was signed help us mitigate this issue. We looked at expediting shipping when available, and a couple vendors were able to speed up the process as well. Once these items were delivered, our team worked off-hours for installation. To combat the long lead time for the special-order doors, Flintco installed temporary doors. When the doors arrived, our team worked weekends and before classes to swap them out for the permanent ones.

By working closely with our trade partners to release materials as soon as possible, as well as completing submittals in a timely fashion for non-stock items to be reviewed, Flintco kept the project on track. Submittal review parties with the architect and owner's representative reduced the review time to release materials sooner than would have occurred under a more traditional

review. Our relationship with the architect also led to a quicker review to hit our critical deadlines.

Carpet was another challenge on the project. The building had custom carpet to match the University's colors, however there was a minimum square foot requirement for a custom run. By working with the University, we were able to order extra carpet and found storage places so we could meet the minimum amount and allowed the school to have a surplus on hand to replace as needed for other projects.

Flintco navigated all the project's challenges and short timelines through careful planning, phasing, and temporary turnovers. By collaborating with the owner, design team, trade partners, and all stakeholders, we devised a strategy that had each space available for owner use prior to the commencement of the 2019 fall semester.

Excellence in Project Execution

Flintco continuously worked with all faculty and tenants to understand their classroom schedules and important meetings so that we could incorporate their needs into our planning and scheduling. Transparency, communication flow, establishing expectations, and avoiding assumptions are crucial to working successfully on an active campus.

Our partnering and communication initiatives included:

- Develop and place signage and wayfinding package
- Identify site access and egress points
- Coordinate and publish emergency vehicle routes
- Plan and communicate planned delivery times
- Update and publicize site logistics to document changes to the site

Overall, we finished ahead of schedule and with zero injuries or incidents. We had a great relationship with the design team, owner's representative, and the University. We were able to work through any issues we ran into and found solutions that kept us moving in the right direction. For example, we able to find a temporary door solution that allow the end users to

move into their space and then we could swap them out during off hours when the new ones came in.

Construction Innovations

The team decided early on to use principles of the Lean Building Institute, that Flintco has incorporated into more than 100 projects since 2017 — we now call it Lean2.0. We used Daily Huddles to coordinate scheduling and manage work with trades at the outset of each workday given the short construction timeline. This ensured that the schedule stayed on track and allowed trade partners to visually see how their work was impacted by other activities and trade, giving them a larger perspective on the project as a whole.

Environmental/Safety

We consider safety our top priority and believe everyone – trade partners, Flintco employees and all those associated with our jobs – should go home safely at the end of each day. Our success depends on our people, and we sweat the small stuff that makes a tremendous difference in keeping our people safe: completing a proper pre-task plan as a team; wearing the correct PPE; and watching out for each other because an extra hand can keep someone safe.

Flintco's Safety vision seeks to inspire everyone associated with our work to pursue a common goal: to create an incident and injury free workplace every day. Our approach and Safety culture seeks to open communication, build relationships, expand risk awareness, and increases the frequency of workers following procedure and training. We explore how people think, feel, and relate to Safety; we also look at the role of the organization in providing a safe work environment.

Every day on campus we acted with intention, clearing the path to tackle the work we need to do – safely. To reduce injuries, Flintco started each day with our Stretch & Flex program to warm up the muscles, improving elasticity and helped to meet the job's physical demands. Safety for everyone onsite is our No. 1 priority. By installing clear, visible and easily understood signage, the public/students/faculty were able to navigate their way to their classrooms and offices while staying safe and clear of construction activity. It also provided emergency contact information if there were any concerns.

Our work on the DNET Engineering and Integration Headquarters project was completed with zero injuries or incidents – proof that our safety program works, and our team members take safety seriously.

The original building was certified LEED Gold. Although LEED was not a requirement for this tenant improvement project, energy and environmentally conscious design was important to the team. We maintained LEED standards with the products we installed.

Excellence in Client Service

Flintco, Anderson Mason Dale Architects, and NV5 completed the project, “perfectly meeting DNET’s needs” said Gerry Murphy, owner of DNET Engineering and Integration. This included fabricating and installing service carriers for pressurized air lines and electrical outlets, as well as an electrostatic discharge paint flooring made for lab areas. This space increased DNET’s opportunity to deliver to the Department of Defense and ultimately keep the U.S. at the leading edge of aerospace advancements.



Framing the offices



Classroom



Office



Lab with specialty door



DNET Engineering and Integration Headquarters located on 4th floor of Advanced Manufacturing Sciences Institute building