

REAL RISKS. EFFECTIVE SOLUTIONS.

Improving ICT Infrastructure, Security, and Connectivity

GHAFARI

WHO WE ARE

We are a collaborator, innovator, partner, guide, and advocate for our clients.

Ghafari is a global engineering, architecture, process design, consulting, and construction services firm with nearly 40 years in our industry. Every day, we apply our passion for client care, collaboration, and innovation to help businesses succeed and people thrive.

Our full-service, in-house team works together to meet the unique demands of each project. Working side by side, market experts and discipline leaders exchange insights to uncover new opportunities for efficiency. This rigorous collaboration allows us to bridge smart design with precise functionality.

OUR FULL RANGE OF CAPABILITIES



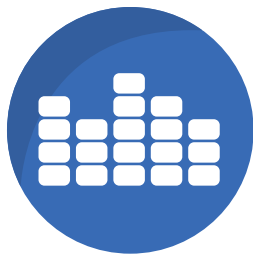
Architecture
+ Interiors



Engineering



ICT + Security



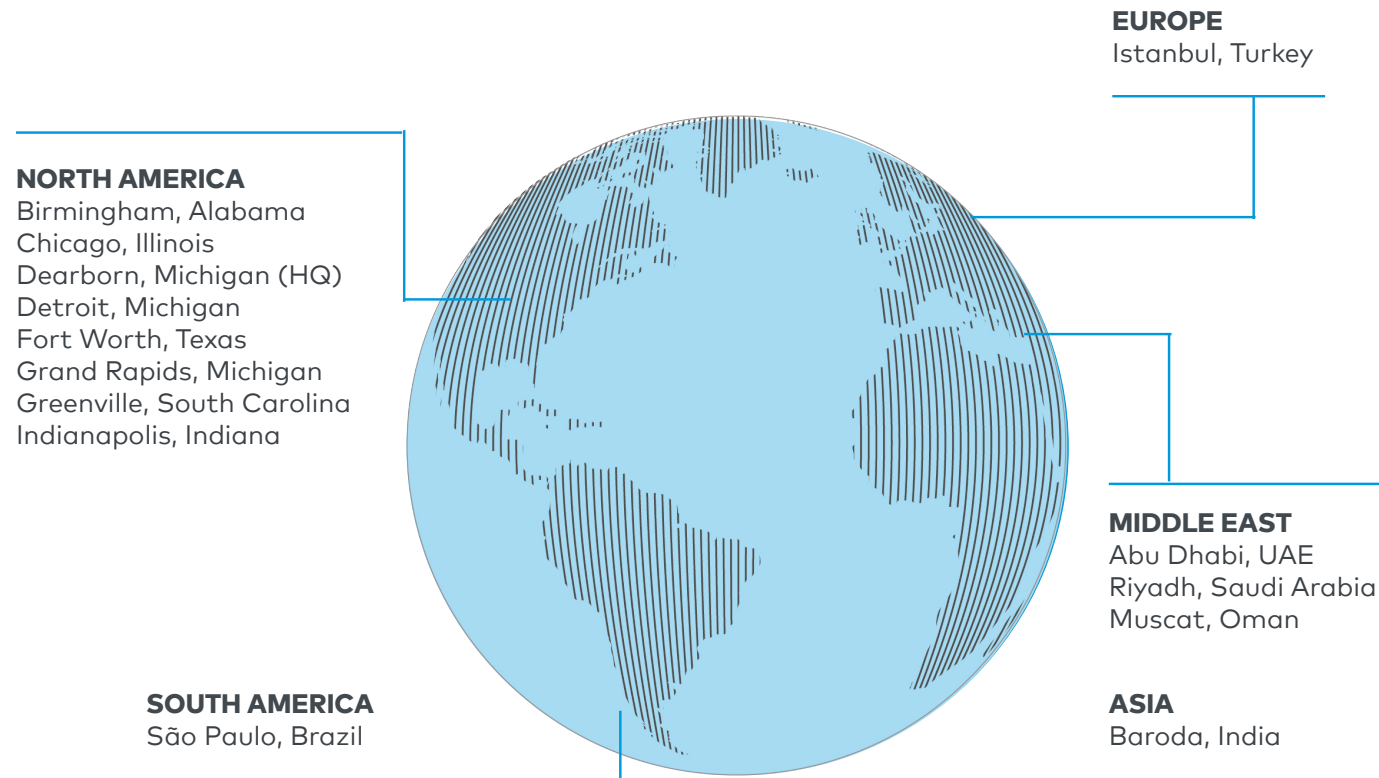
Lean Consulting
+ vPlanner[®]



Process
Engineering



GLOBAL LOCATIONS



MARKETS



Automotive



Aviation



Commercial



Education



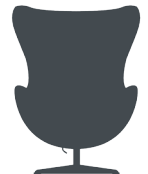
Government +
Institutional



Health +
Wellness



Industrial +
Manufacturing



Workplace

STATS + RECOGNITION

38

YEARS

We've been a partner, innovator, and advocate for our clients since 1982.

TOP 15

RANKING

Building Design + Construction named us one of the Top 15 E/A Firms in the U.S.

40+

COUNTRIES

Ghafari has completed projects in 43 countries around the globe.

#4

RANKING

For over 10 years, we have been in *Engineering News-Record's* Top 10 firms in the industrial and manufacturing sector.

REPRESENTATIVE CLIENTS

American Airlines

Azul Brazilian Airlines

Cargill

Chicago Department of Aviation

Chicago Park District

College for Creative Studies

Delta Air Lines

Erie Family Health

FedEx Express

General Motors

John Deere

Oman Air

Qatar Airways

SAEI / Saudi Arabian Airlines

Southwest Airlines

Toyota

Turkish Airlines

United Airlines

U.S. Navy

Woodward Inc.

ICT + SECURITY DESIGN CAPABILITIES

We strengthen operations around the world through customized data, security, and telecommunications solutions.

Our proven ICT + Security Group includes electrical engineers, telecommunication and electronic engineers, registered communications distribution designers, computer network designers, and accredited data center designers - all focused on improving the intelligence of facilities.

Our experienced team members have earned certifications from some of the world's leading organizations dedicated to advancing security, telecommunications, and information technologies.

These certifications include:

- Accredited Tier Designers (Uptime Institute)
- Aviation Security Professional Managers (International Civil Aviation Organization)
- Certified Technology Specialists-Design (Avixa)
- Registered Communications Distribution Designers (Building Industry Consulting Service International)



ICAO





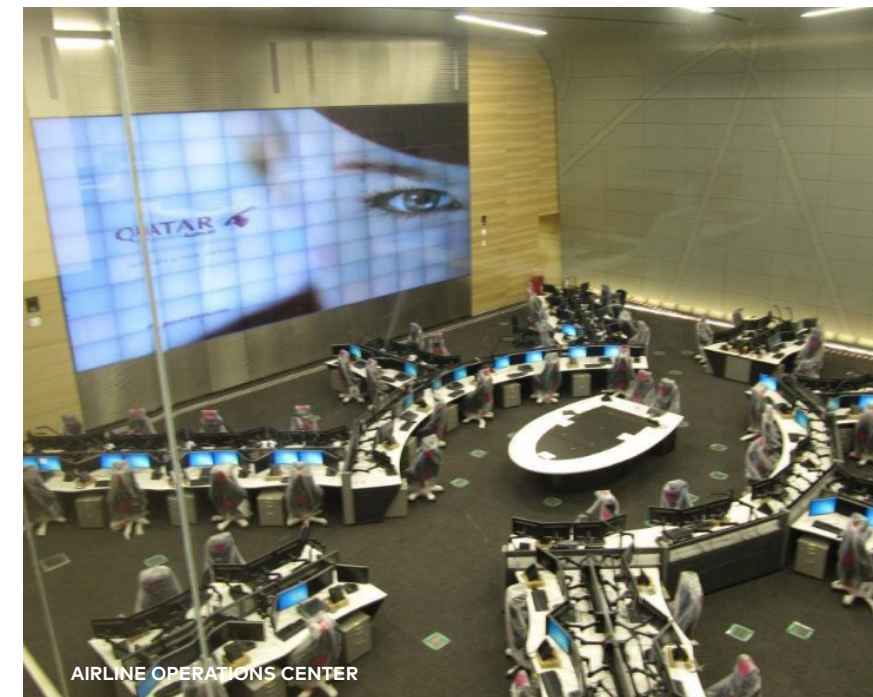
PERIMETER SECURITY



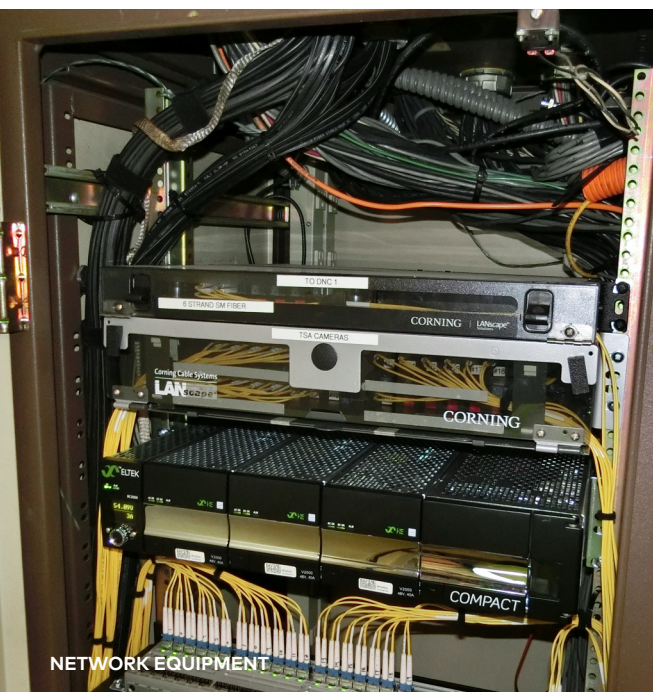
SECURITY OPERATIONS CENTER



SECURITY OPERATION UPGRADE FIS AREA



AIRLINE OPERATIONS CENTER



NETWORK EQUIPMENT



INTEGRATED OPERATIONS COMMAND CENTER

ICT + AUDIOVISUAL ENGINEERING

- Asset Tracking
- Audiovisual Systems
- Building Management Systems
- Command Control Facilities
- Data / Telecommunications Infrastructure
- Data Center Active Component Design
- DC Lighting
- Dense Wavelength Division Multiplexing
- Local Area Networks
- Operational Control Rooms
- Outside Plant Fiber Optic Networks
- Master Antenna Television / Cable Television / Internet Protocol Television
- Master + Ethernet Clock Systems
- Mission-Critical Systems
- Smart Building Integration Platforms
- Video Conferencing + Audio Systems
- Wireless Local Area Networks

SECURITY ENGINEERING

- Aviation Security (Threat / Risk Analysis)
- Electronic Safety and Security (CCTV + ACS Engineering)
- Intercom Systems
- Access Control and Security
- Security Design
- Security Risk Assessments
- Security Upgrades
- Security System Audits

LIFE SAFETY ELECTRONICS

- Area of Rescue Systems
- Fire Alarm / Mass Notification Systems
- Public Address Systems
- Safety Design
- Smoke Travel Simulations with FPE Tool

TECHNOLOGY

We stay at the forefront of client-driven innovation to improve delivery, cost, and quality.

Ghafari was founded on the promise of technological innovation. Each day, we continue to raise the bar – finding new ways to harness technology in order to help clients do their best.

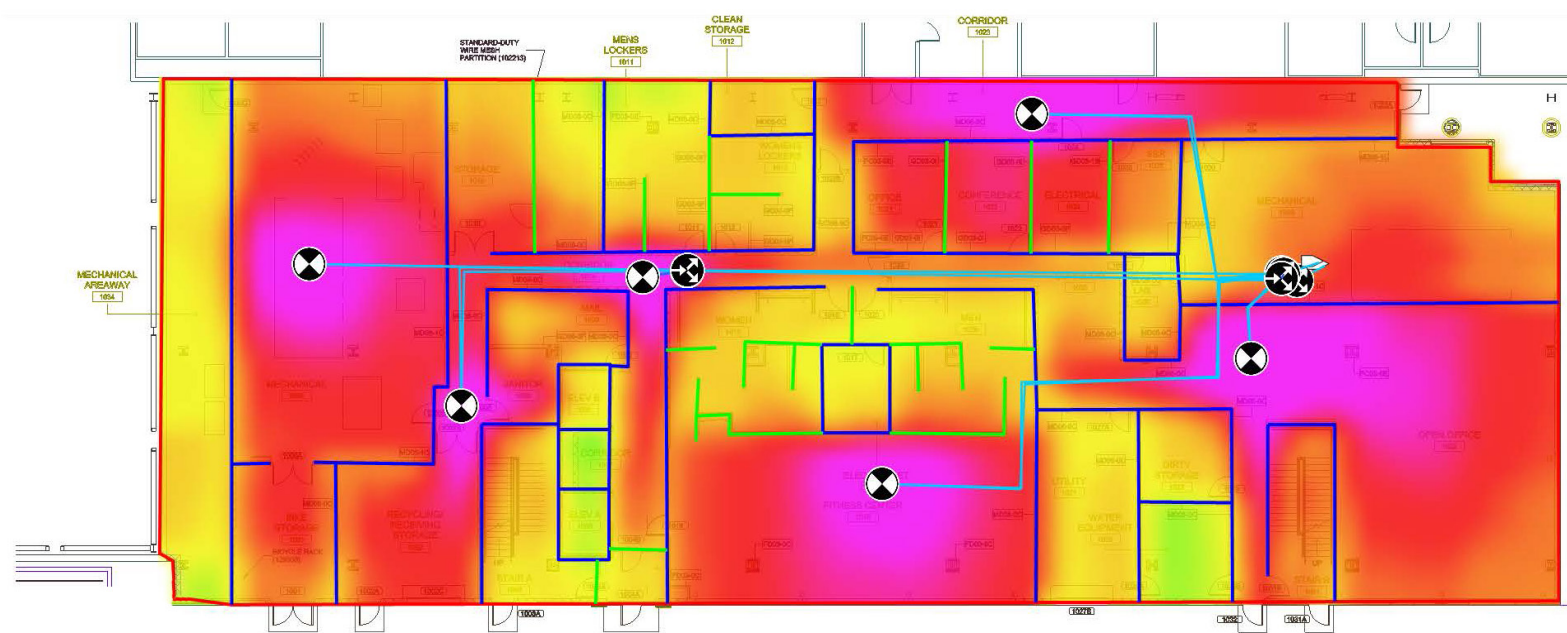
BUILDING INFORMATION MODELING

Early on in our search for greater efficiency, we began using building information modeling (BIM) to simplify complex projects. BIM empowers integrated teams with a shared understanding of project intricacies. A BIM-enabled approach unites our design team with the owner and contractor, allowing us to make collective decisions that are better informed and drive efficiency in project delivery. More than just a visualization software, BIM enables a team-wide exchange of critical data, facilitates interactivity among building systems, and lets us tackle project challenges with greater intelligence and deeper analysis.

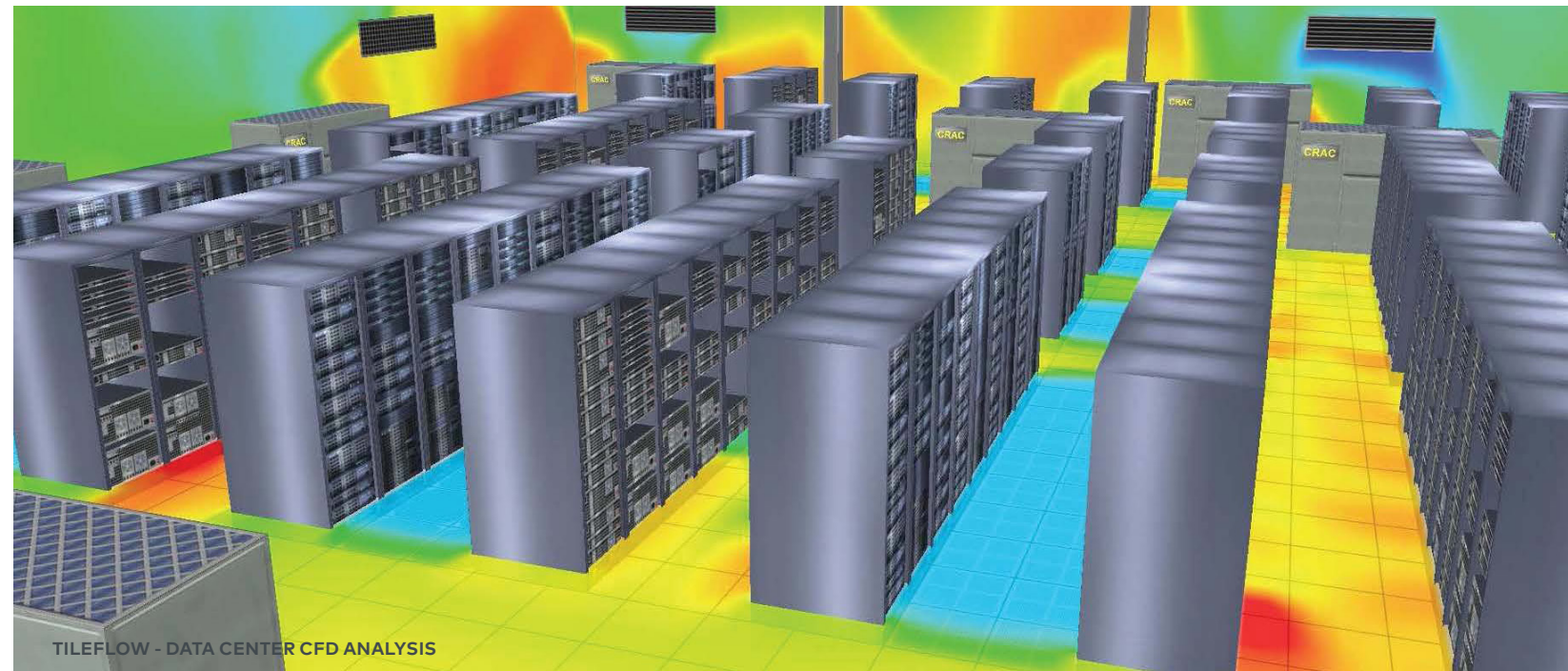
SOFTWARE WE USE

Our ICT + Security Group uses the following software programs:

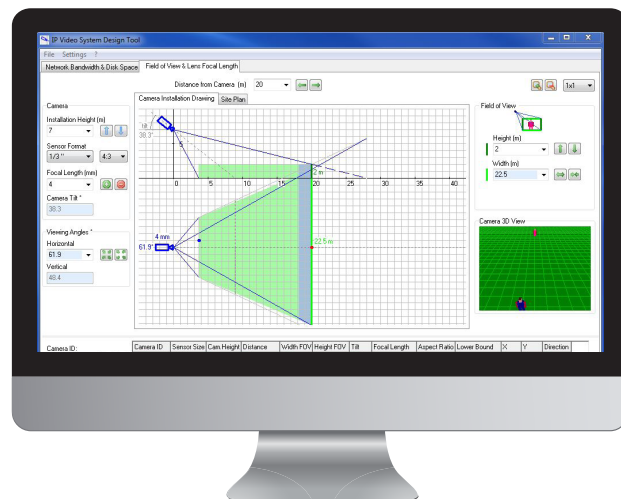
- Autodesk AutoCAD
- Autodesk Revit
- EASE – Enhanced Acoustic Simulator for Engineers
- Ekahau Wi-Fi Design
- iBwave
- IP Video System Design Tool
- Tile Flow - Data Center CFD Analysis



IBWAVE - DAS ANALYSIS

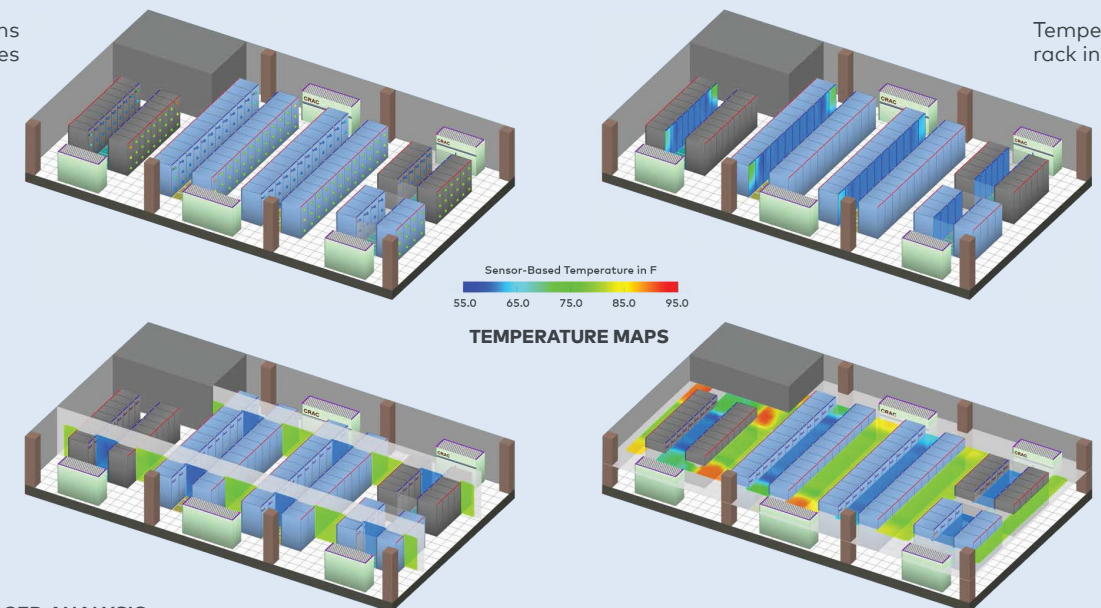


TILEFLOW - DATA CENTER CFD ANALYSIS



Sensor locations and temperatures

Temperatures on rack inlet faces



TILEFLOW - DATA CENTER CFD ANALYSIS

FOR MORE INFORMATION

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GHAFARI.COM

**SPACE
TO
THRIVE**