Table of Contents

JENSEN HUGHES + THE KINGDOM OF SAUDI ARABIA ................................................................. 3
OUR SERVICES ......................................................................................................................... 4
CASE STUDIES + FEATURED PROJECTS ............................................................................. 8
ADDITIONAL PROJECT EXPERIENCE .................................................................................. 18
FIRM OVERVIEW .................................................................................................................. 29
Jensen Hughes + The Kingdom of Saudi Arabia

Providing life safety services to the Kingdom for more than 30 years

For decades, Jensen Hughes has provided engineering services for thousands of projects throughout the Kingdom and Middle East. With a current staff of over 75 permanent employees in the region, we are recognized as an international consultancy, demonstrating both the firm’s technical expertise and ongoing commitment to serving clients in the Kingdom.

Although our history in the region began with Rolf Jensen & Associates (RJA), followed by the 2006 opening of our first UAE branch office in Dubai (Schirmer Safety Consultants), the 2018 opening of our first KSA branch office in Al Khobar (Jensen Hughes Saudi Arabia) ushered in a new era of partnership and commitment to the Kingdom. Our work in the Kingdom continues today through Jensen Hughes’ Al Khobar and Riyadh offices as well as our other locations in the Middle East – including Dubai and Abu Dhabi (UAE) and Doha (Qatar). Our global presence also includes more than 90 offices and 1,400 staff worldwide.

Along with a history of successfully managing complex projects in the Kingdom, we offer the technical expertise, required certifications and licenses necessary for providing client-specific performance-based solutions. Jensen Hughes remains one of the few fire protection engineering firms in Saudi Arabia with the following licenses:

- Saudi Civil Defence (GDCD)
- The Higher Commission for Industrial Security (HCIS)
- Fire Protection and MEP Licenses with the Saudi Council of Engineers

Moreover, our dedicated engineers, scientists and consultants work together to address the complexities of safety and security. We help our clients protect what matters and support their initiatives in meaningful and significant ways.
OUR COMMITMENT TO SAUDI VISION 2030

Through the Vision Realization Office, the Kingdom of Saudi Arabia presented its vision for the Kingdom in 2030, which is based on three pillars that represent the country's unique competitive advantages:

+ Its status as the heart of the Arab and Islamic Worlds
+ Its determination to become a global investment powerhouse
+ Its unique strategic location as a global hub connecting the continents of Africa, Asia and Europe

In the business environment, the Kingdom aims to restructure their economic cities, establish special zones in exceptional and competitive locations and increase the competitiveness of their energy sector. To achieve these goals, the Kingdom highlighted a selection of commitments which reflects its ambition and represents what it aims to achieve.

Our services directly support the achievement of Saudi Vision 2030 in the following areas:

+ Public Investment Fund Program
+ National Industrial Development and Logistics Program
+ National Transformation Program

Jensen Hughes provides services and solutions in more than 100 countries to help meet the growing needs of our clients. With offices in nearly every corner of the world, and local staff on the ground in key regions, we’re anywhere you need us to be.

Our Services

Jensen Hughes has earned a reputation as a trusted expert among regulators, legislators, and inspectors. As members of the National Fire Protection Association (NFPA), the International Code Council (ICC) and other regulatory organizations, our engineers actively participate in the development of building and fire safety requirements.

General Capabilities

+ Accessibility Consulting
+ Building and Fire Code Consulting
+ Construction Support Services
+ Commissioning
+ Developing Comprehensive Fire and Life Safety Standards
+ Emergency Management and Response Planning
+ Fire Performance-Based Design (PDB) and Egress Modelling
+ Fire Research, Development and Testing
+ Forensic Engineering and Consulting
+ Life Safety Systems Design and Consulting
+ Hazard Analysis and Risk Management
+ Property Condition Assessments
+ Security Consulting and Design
+ Smoke Control Engineering
+ Training and Learning Management Systems
COMMISSIONING

Without the right commissioning, it is challenging to ensure that your fire alarm, fire suppression, smoke control and other fire protection and life safety systems will meet code-minimum, performance-based design and end-user requirements. Our systematic commissioning and integrated testing approach for fire protection and life safety systems helps you document, verify and sustain performance of the facility assets that are critical to your business.

CONSTRUCTION SUPPORT SERVICES

We work seamlessly alongside the construction management team to make sure the fire, life safety, mechanical, electrical, structural (MES) and security systems installations are fully coordinated across all other disciplines. Our construction support services include Request for Information (RFI) support to address questions or unforeseen construction circumstances as they arise. When faced with unique jobsite conditions, we prepare Engineering Judgments (EJs) using a comparative analysis of the installed condition and recognized compliance conditions, such as those outlined in building code requirements and UL Tested designs.

DEVELOPING COMPREHENSIVE FIRE + LIFE SAFETY STANDARDS

Our firm has developed comprehensive fire and life safety standards for various clients who handle custom and border standards. These standards include detailed requirements pertaining to building design features including means of egress, fire detection and alarm/evacuation, fire suppression, smoke management, emergency power/lighting, way finding, and interior finish. Operations and maintenance standards include detailed requirements and guidance for the inspection, testing and maintenance of fire protection systems.

FIRE PERFORMANCE-BASED DESIGN (PBD) + EGRESS MODELLING

Our services range from the application of computer-based fire models and egress models to fire alarm and fire suppression systems design, smoke control system design, fire-structural analysis and other specialized applications. Advanced computer models analyze fire, smoke, pedestrian movement and structural consequence to develop performance-based fire protection and life safety solutions. PBD solutions can achieve compliance with the intent of prescriptive building codes for available safe egress time compared to the required safe egress time.
HEALTH + SAFETY

Our team of certified health and safety professionals bring extensive experience and best practices related to preparing, evaluating and implementing a thorough and informed set of health and safety policies, procedures, and corporate safety plans, focusing on human behavior, safety culture development and effective incident investigation techniques for when things don’t go as expected, as well as the experience to implement efficient auditing and assessment strategies across a range of facility types. Our expertise includes global management systems, risk assessment, incident investigation, safety culture development, fire protection, air quality, hazardous materials, safety engineering technology and process safety, our team brings specific expertise to support your safety journey across all sectors and disciplines.

FIRE RESEARCH, DEVELOPMENT + TESTING

Our engineers and scientists offer the industry’s most comprehensive services to test, assess and implement fire protection concepts and products. The broad spectrum of services performed in our in-house laboratories include new product roll-out, testing of unique fire protection strategies for special hazards and new processes or equipment designs that are not considered in current code provisions.

HAZARD ANALYSIS + RISK MANAGEMENT

Our fire hazard and risk analysis consultants provide fire and smoke modelling, process hazard analysis, risk management and regulatory compliance support, and a suite of risk-informed engineering and applications services, which include probabilistic risk assessment (PRA), human factors analysis, technology evaluation and selection, gap assessments, trade-off studies, emergency response planning and training.

SMOKE CONTROL ENGINEERING

Our team of scientists, engineers and technicians have earned us a reputation worldwide for solving smoke movement and smoke control system engineering problems with state-of-the-art scientific, engineering, and decision-analysis techniques and technologies. Our engineers are highly experienced and skilled in smoke control including movement analysis, control system design, movement testing and control system commissioning.

SECURITY DESIGN + CONSULTING

We are a leader in security consulting and design, and related safety disciplines. We perform a wide range of services for commercial, industrial, institutional, and government organizations worldwide. We provide comprehensive, high-quality solutions to building and personnel security challenges. Our staff is comprised of individuals who are Board certified in Security Management and have the experience to maintain the relationships to develop proactive solutions for your potential uncertainties.

EMERGENCY MANAGEMENT + RESPONSE PLANNING

When a crisis arises, minimizing the response time is critical and any delay can have significant and even fatal implications. In today's business, political, environmental and social realities, it is imperative for every business or facility to plan for the worst-case scenario and be prepared for any emergency. Understanding the scope of emergency response and management as it relates to every individual facility is also critical as no two plans will be exactly alike. We are here to help you understand every facet of emergency management, from action plans to mass notification system design, to post-event response and collaborate on a plan that will be the right scale for your needs.
LIFE SAFETY SYSTEMS DESIGN + CONSULTING

Working with building owners, designers, and architects, we provide fire alarm, mass notification, smoke control, and other life safety system designs for new and existing facilities, including non-buildings such as outdoor campus installations. We determine system performance requirements, produce detailed design drawings and documents, perform manufacturer specific calculations and evaluate the installation of systems.

FORENSIC ENGINEERING + CONSULTING

We are globally recognized in the forensics field with expertise in all types of event and failure scenarios. We focus on delivering scientifically based analysis and meeting a broad range of clients’ investigative requirements. Our team can provide field investigation and supporting analysis in our state-of-the-art fire, chemical, dust and metallurgical laboratories as well as engineering simulation using modern fire, explosion, collision, CFD and FEA computer models.

TRAINING + LEARNING MANAGEMENT SYSTEMS (LMS)

For any professional involved in fire protection and life safety systems, training should include more than the basics. It should encompass knowledge of codes and standards, fire prevention and protection measures, and address electrical safety hazards.

Ranging from fire suppression systems safety and installation to electrical safety, smoke control and emergency communications, our online training platform, JH Academy (JHA) and Learning Management System (LMS) provides unmatched knowledge sharing in the industry.

Our experts are consistently involved in developing and delivering programs developed for the National Fire Protection Association (NFPA). We also provide continuing education credits for the International Association of Continued Education (IACET) and the American Institute of Architects (AIA).
Case Studies + Featured Projects
Case Study

Saudi Ministry of Health
Various Location, Kingdom of Saudi Arabia

Life Safety Code Surveys

Opportunity

Following the tragic hospital fire in Jizan in December 2015, the Kingdom of Saudi Arabia and the Vision Realization Office of the Ministry of Health, as part of Saudi Vision 2030, included in its National Transformation Program a mission to improve safety in the health sector in a gradual, safe and efficient manner to ensure that the system is dynamic, technology enabled, as well as fosters both preventive and therapeutic health services for both individuals and the society. In support of this mission, the Saudi Ministry of Health compiled a dashboard of its 290 hospitals and embarked on a plan to upgrade fire protection and life safety systems within the portfolio.

Challenge

A key element for the success of the project was to capture the data and ensure a consistent methodology was applied and consistent information was captured across all facility types, both sprinklered and non-sprinklered.

Our Solution + Benefit to the Client

Our firm was selected to provide surveys for six (6) healthcare facilities in Kingdom. The scope of the surveys included evaluation and identification of deficiencies in smoke compartments, vertical openings, fire-rated doors, exiting, building construction, fire alarm systems and sprinkler systems. The surveys were based on compliance with the 2012 edition of NFPA 101 Life Safety Code. Following the evaluation, a life safety survey report for the facility was drafted, including documentation of basic building information, hypothetical building compartmentation plans and detailed identification and location of noted deficiencies and corrective actions to address. As part of the surveys, we deployed a tablet-based data capture program to survey the facilities. This technology solution was utilized to capture the data and ensure a consistent methodology was applied and consistent information was captured across all facility types, both sprinklered and non-sprinklered. As part of the survey activity, we also provided training to Ministry of Health General Directorate of Safety security engineers and technicians in survey and evaluation procedures. The survey methodology and report format developed by our team served as a benchmark for a future project involving survey and design of upgrades for multiple healthcare facilities throughout the Kingdom of Saudi Arabia.
Saudi Ministry of Health, Continued

Project Highlights

As part of this program, the Ministry of Health selected teams of international fire protection and life safety consulting firms to assist in assessing the existing conditions in their healthcare facilities. We were selected to provide surveys for six (6) healthcare facilities in the Kingdom including the following:

**Jazan Psychiatric and Drug Addiction Hospital, KSA**

The hospital campus is approximately 150,000 square meters in area and consists of twenty (20) 1-3 story buildings.

**Prince Mohamed Bin Nasser Hospital, KSA**

The main hospital building is a four-story structure with a variety of typical healthcare departments. The basement level houses support areas including the auditorium, laundry, research labs and mechanical spaces. The ground floor primarily consists of administration, admissions, emergency services, in-patient care, kitchen and dining, a pharmacy with other support services and specialty exam areas. The first and second floors include specialty patients care suites. The third-floor levels (mechanical penthouses) were primarily storage and mechanical uses.

**King Abdul Aziz Specialist Hospital, Taif, KSA**

The hospital campus consists of twenty-eight (28) buildings. The main hospital building is a six-story structure with a basement and has an approximate total area of 38,000 square meters.

**Al Hofuf Obstetric and Pediatric Hospital, KSA**

The hospital occupies an approximate area of 32,876 square meters and consists of a basement floor, a ground floor and four (4) typical floor levels.

**King Fahad Hospital, Al Baha, KSA**

The hospital campus consists of multiple buildings. The existing main hospital building is a seven-story structure and has an approximate total area 27,000 square meters.

**King Khaled Hospital, Al Majma‘ah, KSA**

The hospital campus consists of two main hospital buildings connected with a horizontal exit, and the kidney/dialysis center. The main hospital building is a two-story structure with a basement. The structure consists of a larger building (MH Building) connected with a “footbridge” link to a second smaller building (HE building). The HE building is approximately 2,150 square meters per floor (4,300 square meters total) and the MH Building is approximately 5,000 square meters on the ground floor and 4,500 on the first floor.
Case Study

King Abdullah Financial District
Riyadh, Kingdom of Saudi Arabia

Fire Protection and Life Safety Consulting, Design Review and Validation Services

Opportunity

The King Abdullah Financial District (KAFD) is a development currently under construction in Riyadh, Saudi Arabia.

Challenge

The master plan calls for over 60 residential, office, and retail towers, several schools and parking garages, a medical clinic, civic buildings and three hotels. It is slated to house 50,000 residents when complete.

Our Solution + Benefit to the Client

Jensen Hughes has provided fire protection, life safety consulting, design review, security and validation services for multiple projects within KAFD.

Our firm has completed and continues to contribute to a variety of projects including:
+ The Public Investment Fund (PIF) Tower
+ Experience Centre
+ Science Museum – Geoclimate Centre
+ Aquarium Attractor
+ Parcels 2.05, 4.121

The following page provides a representative sampling of our work in the KAFD.
King Abdullah Financial District, Continued

Project Highlights

**The Public Investment Fund (PIF) Tower**

Previously known as The Capital Market Authority (CMA) Tower, PIF Tower is a super high-rise office building under construction with four basement levels, three podium levels and 73 upper levels. The project had previously obtained Riyadh Civil Defence (RCD) approval in September 2010 based on the project design and drawing status at the end of the project's Design Development phase. However, between the original RCD approval and the status of the project, numerous modifications were incorporated into the project design. Our firm was retained to provide fire and life safety consulting services responsible for the review and validation of the modifications in the design to ensure compliance with the fire and life safety codes and with the project's fire and life safety strategy. We were also responsible for the development of fire protection strategies based on international code requirements and life safety enhancements. We assisted in developing cost effective and safe fire strategies and implementing them into the design of the building.

**Aquarium Attractor (Parcel A.03)**

The Aquarium attractor will be designated as the National Aquarium of Saudi Arabia. The Aquarium will include exhibits, functional areas, a feature restaurant and a 4-D submersed theatre. The project shares a combined entry and events plaza with the swim, spa portal and monorail station. We provided fire and life safety consulting services during the various phases/stages of the project, assisting the client during the conceptual design stage, schematic design stage, preliminary and final design development stages of the project.

**Science Museum – Geoclimate Centre**

This is being designed as separate assembly buildings with office support areas retail areas and parking. The museum will occupy approximately 16,500 square meters, the Geoclimate building will occupy approximately 11,000 square meters. We provided fire protection consulting services and proposed to use the Saudi Building Code. Where aspects of the design were not addressed by the local code, our firm proposed to use NFPA 101 Life Safety Code - 2009 for egress and life safety related issues and the International Building Code (IBC) - 2009 for all other fire protection related design features of the building (structural fire resistance, fire and smoke barriers, interior finishes, fire detection, alarm, suppression and smoke control systems) along with the referenced standards.

**KAFD Experience Centre (Parcel 1.05)**

We provided security and fire life safety consultancy services for a master plan development. Our firm developed a design report that provided the operational functionalities of our proposed security system, physical measurements and architecture of the proposed security system design.

**KAFD Parcels 2.05 and 4.12**

Parcels 2.05 and 4.12 are being designed as mixed-use buildings housing office spaces, residential units and retail with four levels of below grade parking. Parcel 2.05 will occupy approximately 43,000 square meters and Parcel 4.12 will occupy approximately 47,500 square meters. As part of our scope, our firm was responsible for ensuring the project meets the applicable international and local code requirements and making presentations to the Civil Defence authority.
Case Study

General Entertainment Authority

Kingdom of Saudi Arabia

Deliverables

+ Development of rules and requirements
+ One (1) Introductory Guidebook
+ All categories of amusement attractions
+ Three (3) Governing Codes and Regulations Documents
+ One (1) for each category of amusement attraction
+ Nine (9) Inspection Manuals and Guides

Development of Rules and Requirements for Amusement Attractions

Opportunity

The objective of this project is to identify appropriate codes, standards and regulations to ultimately recommend a unified set for KSA’s use and implementation for Amusement Attractions. This selection of standards will cover site safety, building safety, installation of systems, workplace safety and public safety. Where applicable, maintenance procedures for the recommended measures will be outlined. Our recommendations and deliverables will be based on diverse and extensive experience, industry best practices and internationally recognized codes standards.

Challenge

A unified set of standards for Amusement Attractions does not currently exist. The project delivery method will need to consider the existing codes and standards, the enforcing entities and the existing government infrastructure, amongst other considerations. Rules and requirements have been categorized as follows:
+ Design and Construction Requirements/Maintenance Codes (DCS)
+ Controllers and Operators Requirements, Standards and Regulations – Occupational Safety Code (OSC)
+ Public Code of Conduct and Safety Regulations – Public Safety Code (PSC)

For example, DCS rules and regulations are likely implemented by Civil Defence, architectural and engineering firms and developers while OSC are likely enforced by the Ministry of Labor and the Ministry of Health.

Our Solution + Benefit to the Client

Our firm is currently developing specific rules, requirements and guidelines of the amusement attractions industry for the Kingdom of Saudi Arabia. The project consists of developing guidelines, rules and regulations for the construction, operations and inspection of the safe use of amusement attractions by the public, operators and assets. As part of the project, we will develop inspection formats, guidelines and approach.
Case Study

Confidential Master Plan Development
Riyadh, Kingdom of Saudi Arabia

Fire and Life Safety Consulting, Computational Fluid Dynamics (CFD) Analysis and Crowd Safety Study

Our firm developed the masterplan Fire and Life Safety Strategy to provide an integrated approach which relies on a combination of exterior and interior fire protection features to protect occupants as they evacuate a building or infrastructure facility and First Responders as they conduct firefighting operations. Although the FLS design in KSA is regulated on the basis of a prescriptive building and fire code including SBC 201/801 and others, the FLS strategy has also been developed on the basis of a Risk-Based engineering assessment to ensure all city-wide fire hazards and resulting risks and mitigation measurements were considered. This level of Fire Safety engineering assessment at Master Plan level will serve as guidance and coordination documentation for the integration of asset specific strategies design for the city as a whole.

The masterplan has been developed with a road network that provides vehicle access through the different building typologies, clusters and recreational areas. The fire apparatus access road consists of internal road networks which include primary and secondary roads. Fire Apparatus Access will be provided in accordance with SBC 801 and enhanced within the old-style Nadj architecture based on the results of the risk assessment. The road networks are designed to accommodate a 45-meter travel distance from the staging area to all portions of the facility and exterior walls of the first story. This limit has been increased to 137 meters in the buildings protected with sprinkler system within old-style Najdi architecture residential assets based on discussions with Riyadh Civil Defence (RCD).

There are a series of road tunnels serving as main access, communication and service network roads as well as other secondary access and supply distribution roads within the city. Road tunnels are to comply with the fundamental fire and life safety requirements of the NFPA502 for means of egress, ventilation and fire resistance ratings. Similarly, a series of deep underground public car parks are included and will require specific fire protection features such as smoke and heat venting, automatic fire protection and sufficient means of egress to comply with the SBC 801 requirements.

The development is planned to be provided with three strategically located firefighting water storage and pumping facilities which will supply a dedicated combined potable + fire hydrant + residential sprinkler systems network serving the entire city development. Two Civil Defence fire station plot facilities are included within the development. The project will also benefit from the provision of a centralized Emergency Command and Control Center. Every individual plot and special asset such as road tunnels and metro stations will have their own Emergency Command Centre (ECC) and dedicated Fire Fighting Water Supplies (FFWSS) systems.

Special Studies Conducted as part of the Master Plan Development

+ Access strategy from fire truck staging area
+ Jet fans for ventilation, CFD and evacuation modelling
+ CFD and evacuation modelling for road tunnels
+ Large event crowd safety and pedestrian modelling
+ Water supply connection
+ Metro system
+ Automatic sprinkler systems exemption
Confidential Master Plan Development, Continued

Project Highlights

**Access Strategy from Fire Truck Staging Area**

Civil Defence access (Emergency Vehicle Access, EVA) strategy for the project is driven by city specific architectural and design challenges between the Najdi heritage type of architecture and modern architecture, dividing the strategy into these two approaches. SBC requires road networks to be designed to accommodate a 45-meter travel distance. This limit was increased in residential buildings protected with automatic sprinkler systems based on the discussions with RCD.

**Jet Fans for Ventilation, CFD and Evacuation Modelling**

Conducted and presented to RCD, providing a technical comparison between ducted and jet fans for underground car park ventilation systems. A trial CFD and evacuation modelling study was performed to further validate performance. RCD accepted the use of jet fans for underground car park ventilation systems for the project.

**Automatic Sprinkler Systems Exemption**

According to SBC 801, section 903.2.8, Group R occupancies shall contain automatic sprinkler system throughout the building. However, it has been agreed with RCD to not provide sprinkler system in residential occupancies subjected to all other FLS requirements being met. The traditional Nadji architecture residential clusters do not qualify for this exemption because of extension of travel distance from the fire truck access road from 45 meters to 137 meters. Hence, these residential clusters were protected with automatic sprinkler system in accordance with NFPA13D and NFPA13R.

**Metro System**

The fire and life safety provisions for the metro system were established based on NFPA 130, Fixed Guideway Transit and Passenger Rail Systems, 2017 edition and Riyadh Metro standards.

**CFD and Evacuation Modelling for Road Tunnels**

A series of road tunnels provide access to underground service entrances for buildings, underground car parks and service zones to Retail and F&B areas. As the SBC 201 and SBC 801 do not provide requirements for tunnels, NFPA 502, Standard for Road Tunnels, Bridges, and other Limited Access Highways, 2017 Edition was followed. A performance-based analysis requiring the application of specific fire risk and fire engineering calculations for establishing the fire and life safety and fire protection criteria of road tunnels was conducted, documented and approved by local Civil Defence authorities.

**Water Supply Connection**

The water supply of fire hydrant and potable water systems for the development is a combined-type system. An engineering study was conducted to document the reliability, redundancy and availability of the combined system to supply residential sprinkler systems directly for assets to be connected to the main potable water system directly i.e., without the need to provide plots with individual systems. The design approach was discussed and agreed with local Amana and RCD.

**Large Event Crowd Safety and Pedestrian Modelling**

The study focused on providing the initial concept and basis of design for crowd safety during normal operation of events with large assemblies as well as egress and evacuation scenarios ranging from 30,000 to +50,000 people per day. A pedestrian simulation study for three (3) of the main public events was performed. The study used Pathfinder pedestrian simulation software to evaluate pedestrian movement in and out of the sites during high-occupancy scenarios and provide information to assist in the development of crowd management and emergency response plans.
Case Study

Saudi Telecom Company
Various Locations, Kingdom of Saudi Arabia

Fire Protection and Life Safety Consulting Services

Opportunity

Saudi Telecom Company (STC) is a pioneer digital champion, focused on innovation and evolution and a truly meaningful and purposeful organization. STC offers variety of ICT solutions and digital services in several categories including telecommunication, IT, financial technology, digital media, cybersecurity and other advanced digital solutions. STC leads digital transformation both nationally and regionally.

Our relationship with STC started in 2019, when we were appointed as a fire and life safety specialist, responsible for design reviews, detailed site inspections and preparation of findings reports, liaison with contractors, re-inspection of facilities and assisting the client in obtaining Saudi Civil Defence approval for many significant STC facilities across the Kingdom.

Challenge

The range of facilities vary in size, in use and in age, with some facilities being built a number of years ago. A number of the buildings were not constructed under the current local and international code and standards, and for older buildings some of the Operation and Maintenance documents and As-Built information was not readily available.

Our Solution + Benefit to the Client

We are working alongside STC to develop information in line with Civil Defence requirements, guiding on requirements and are able to provide drawings and calculations where required. Our partnership ensures the project progresses successfully and will ultimately be fully compliant with local and international standards and obtain Civil Defence approval.

Services Provided

+ Fire protection and life safety design review
+ Code consulting
+ Site inspections and commissioning
+ Report preparation
+ Meetings with local Authorities Having Jurisdiction (AHJs)
Case Study

Swissotel
Jeddah, Kingdom of Saudi Arabia

Services Provided

- Recommendation of security device placement
- Security system design
- Installation detail diagrams
- Threat assessment

Security Consulting Services

Opportunity

Sisban is an investment firm founded by Mohammed Al Dhabban and Ali bin Mousa that focuses primarily in the areas of residential and commercial real estate, agriculture and F&B. Sisban has three corporate offices and group companies operating in ten countries. They currently serve 5+ million customers annually. The hotel consists of banquet and ballroom functions as well as amenities such as retail functions, restaurants, a pool, a spa and underground parking.

Challenge

Taking into account the need for an open and inviting hospitality environment while maintaining a robust level of security was a challenge. There was a need to appropriately segregate front of house, back of house and “approved guests” throughout the hotel environment, while also integrating security into the architecture of the high-end finishes and spaces.

Our Solution + Benefit to the Client

Our firm provided a cursory Threat and Vulnerability Assessment that provided an overview of the threat climate for the hotel’s proposed location. Following that, we worked with the architect to develop a comprehensive security system design package from Schematic Design through Tender and Construction Documentation. Our team worked with the Client to provide our expertise and industry knowledge in consulting and design by performing an on-site risk assessment as well as a security system design service. The goal of the risk assessment was to identify threats and vulnerabilities based off regional, man-made, and project-related factors. Findings from the assessment were used to develop a Security Strategy Report that identified mitigation methods for a current and future threats as well as serve as a basis of design for the security systems. We also designed the following systems: access control, alarm management, security video management and recording and emergency communication (intercoms, duress buttons). In addition, we provided consultation services regarding the use of vehicle barriers at the site.
**Additional Project Experience**

**COMMERCIAL REAL ESTATE + MIXED USE**

**Jabal Omar Development Project**  
*Makkah, KSA*

*Third-Party Review of Master Fire Strategy*

We were selected to perform third-party review of the Master Fire Strategy for Site Infrastructure and Utilities of Jabal Omar Development Project. The Site Infrastructure and Utilities Fire Strategy Master Plan for the project occupies 23 hectares and includes electrical power stations, ambient cooling plants, road tunnels, overpasses (walkways) and a utility infrastructure building. The utility infrastructure consisted of three underground levels provided with the technical rooms, including water tanks, pumps and technical galleries serving the entire development. The master fire strategy also included integration of fire stations, site fire command centers and a robust firefighting infrastructure including optimized Civil Defence site access.

As a separate project, we were retained to perform third-party review, after the request for a new, 39 tower high-rise hotel and mixed-use, 12-story podium that is located adjacent to the central mosque in Makkah.

Our firm provided comprehensive design review for compliance with GCC fire code and Civil Defence requirements for all active and passive fire and life safety features (fire suppression systems, fire resistive construction, fire detection and alarm systems, smoke management and emergency systems).

**King Abdul Aziz Road (KAAR), Project D**  
*Makkah, KSA*

*Fire and Life Safety Consulting*

Our firm was involved in the review of the concept architectural design drawings and documents and in the development of the concept fire and life safety strategy report in addition to FLS presentations to Makkah Civil Defence.

**King Abdul Aziz Road (KAAR), Project Surrounding Structure**  
*Makkah, KSA*

*Fire and Life Safety Consulting and CFD Analysis*

Our firm successfully supported Jabal Omar Development Company (JODC) to obtain Civil Defence approval of the fire and life safety master plan strategy.

The JODC project will be connected to the proposed King Abdul Aziz Road's Boulevard via pedestrian areas and underground road tunnels that start at the JODC site. We prepared the Computational Fluid Dynamic (CFD) Analysis for the first ring road tunnel that passed below the King Abdul Aziz Road Project.
**The Kingdom Tower**  
*Riyadh, KSA*

*Fire and Life Safety Code Consulting*

The landmark Kingdom Centre in Riyadh is a mixed-use development which consists of a retail shopping Centre, convention and banquet facilities, a 5-star hotel, residential condominiums and office space. The total project area is approximately 280,000 square meters with a total height of 310 meters.

We were retained as the fire and life safety consultant for the building responsible for the development of fire protection strategies based on international code requirements and life safety enhancements. We assisted in developing cost effective and safe fire strategies and implementing them into the design of the building.

**Red Sea Development Coastal Village**  
*Riyadh, KSA*

*Fire and Life Safety Consulting*

As part of the masterplan, our firm is responsible for developing the sitewide fire and life safety strategy for the building typologies of the project. The project is one of the three giga projects announced by the HRH Crown Prince Mohammad bin Salman bin Abdulaziz Al-Saud in 2017 and it supports the government’s strategy to diversify the Kingdom’s tourism offering as laid out in the Kingdom’s Saudi Vision 2030.

As part of our scope, our team is also involved in the preparation of the fire safety drawings and fire strategy report in addition to review of the architectural drawings which are all based on the applicable SBC 201, SBC 801 and KSA circulars.

**Al Diriyah Farm**  
*Riyadh, KSA*

*Fire and Life Safety Code Consulting*

The Al Diriyah Farm project is a large, mixed-use development consisting of residential villas, clinics, management buildings, laundry building, maintenance building, gas station, tunnel, MEP utility buildings and mosque. Existing buildings include villas, gym, living dining, kitchens, recreation, spa building, pool house and swimming pools.

Our involvement includes preparation of fire strategy report and drawings, construction documentation of fire and life safety strategy, site surveys of existing buildings, identification of code compliance issues, plan reviews and coordination and meetings with Civil Defence. We also provided masterplan consulting services including the building location/fire separation, sitewide fire vehicle, site-wide firefighting water supply and firefighters’ access to building.
The Jeddah Tower  
*Jeddah, KSA*

*Fire and Life Safety Code Consulting*

Our team provided full fire and life safety design for the project including the fire and life safety strategy report, drawing reviews, code consulting and meetings with local authorities. We also provided fire engineered studies for the project.

We also provided a peer review of the security system design performed by others. The peer review was conducted to make sure security was implemented with life safety in mind and to avoid code conflicts in the field. We peer reviewed the specifications, design drawings and other relevant materials to help mitigate issues that could occur during construction.

Retail and Mall Projects  
*Various Locations, KSA*

*Fire and Life Safety Code Consulting*

We have been involved in several retail centers and mall projects in the Kingdom of Saudi Arabia where we were retained as the fire engineering consultant responsible for fire protection and life safety report and drawings preparation, fire and life safety plan reviews, car park CFD smoke control fire rational analysis and attending meetings with the authority having jurisdiction.

Projects have included the following:

+ Jeddah City Mall
+ La Strada Mall Development, Riyadh
+ King Avenue Retail Development, Jeddah
+ Saudi Mall
+ Ishibiliah Mall, Riyadh, KSA

KAAKI Land Development Project  
*Makkah, KSA*

*Fire and Life Safety Code Consulting*

Our team was retained by the Client as the fire engineering consultant for the Kaaki Development Project, a large, mixed-use development which occupies a land area of 155,000 square meters. We were responsible for the preparation of the Fire Strategy, fire zoning report and drawings and review of the architectural design drawings to ensure approval from the Authority Having Jurisdiction.

As part of our scope, our firm performed the smoke control and ventilation study for the atrium and parking. We also reviewed the project’s fire protection active and passive system designs including but not limited to the automatic sprinkler and standpipe system design, fire pump and water supply system design and clean agent fire suppression.
Abraj Kudai
Jeddah, KSA

**Fire and Life Safety Code Consulting**

We conducted third party peer review of the project’s fire and life safety design drawings and documents including means of egress, compartmentation, structure, and fire protection systems, in addition to the review of CFD Smoke Control analysis and report, fire and life safety drawings. We presented the overall strategy in collaboration with Dar Al Handasah to Makkah Civil Defence. The strategy was based on the GCC in addition to NFPA and local MCD requirements.

Confidential Fire Safety, Loss Prevention and Emergency Management Giga Project
Riyadh, KSA

**Fire Safety, Loss Prevention and Emergency Management**

We are currently developing and establishing safety, loss prevention and emergency management functions and services to set the stage for a giga project in the Kingdom to sustain such services through establishing related policies, standards, and guidelines. Our firm will be supporting the operational implementation of these services via inspection and supervision throughout the cycle of development and into operational.

DATA CENTER

Saudi Telecom Company
Riyadh, KSA

**Code Consulting and Regulatory Compliance**

Our firm collaborated with STC to develop a world-class HSE program including a corporate safety strategy plan and procedures. Jensen Hughes’ main role with STC is taking proactive steps in developing cohesive documents and processes for both preventing accidents before they occur, which assists in mitigating liability, as well as having the tools for managing incidents and accidents as they occur.

Jensen Hughes assisted STC in effectively navigating a complex environment of risk reduction and risk mitigation by transforming thought processes across all levels of the organization. Jensen Hughes analyzed current state, created a Corporate Safety Plan, Implementing Procedures, and Improved Safety Culture. Referenced documents in the creation the HSE program included ISO 45001, OSHA, UK HSE, and many more.

King Faisal Specialist Hospital + Research Centre
Jeddah, KSA

**Fire and Life Safety Consulting**

Our firm provided fire and life safety consulting services for the KFSH Iconic Data Centre, a low-rise data center located in Jeddah, KSA, with a footprint of approximately 1,950 square meters.
HOSPITALITY

GOSI Hilton Hotel and Serviced Apartments
Riyadh, KSA

Fire and Life Safety Consulting
The GOSI Hilton Hotel and Serviced Apartments project comprises an iconic 5-star hotel tower and furnished apartment building in a prominent location in Riyadh, Saudi Arabia. The intention of the design teams is to deliver a more comprehensive, fully integrated and environmentally sustainable project.

Our firm was requested to provide Fire Protection and Life Safety Consulting services for the project. Our scope of services included preparation of fire and life safety reports, drawing reviews for code compliance technical input to the design team regarding fire and life safety systems requirements and design criteria, and development of life safety drawings documenting life safety compliance for the hotel.

Maghrabi Hotel
Makkah, KSA

Fire and Life Safety Consulting
Fire protection and life safety code consulting services for the proposed luxury high-rise hotel to be built in Saudi Arabia with large assembly hall spaces.

Medina Road Hotel
Makkah, KSA

Fire and Life Safety Code Consulting, Smoke Control Analysis and Ventilation Services
Our team served as the fire engineering consultant for the project, a mixed-use building aimed at providing hotel accommodation, car parking, public spaces and public amenities to support religious, social and commercial activities to Hajj and Umrah pilgrims. The building includes 21 floors with 988 guestrooms designed to accommodate five (5) guests per room. Our team was involved in the preparation of fire strategy report and review of architectural design drawings and documents. Our team also participated in the meetings with the Makkah Civil Defence on behalf of the Client.

Ajyad Beer Balilah Hotel
Makkah, KSA

Fire and Life Safety Code Consulting Services
900-keys, 27 floors with three podium floors for parking. It has an approximate total built-up area of 70,000 square meters. We were responsible for the review of the architectural design drawings, and preparation of the fire safety strategy report and fire safety drawings of the project. Our team provided assistance to our client during the various design stages of the project.
CULTURAL + ASSEMBLY

**Grand Mosque Third Expansion Project**  
*Makkah, KSA*

*Fire and Life Safety Consulting Services, GAP Analysis Services*

Our firm performed a third-party review of FLS strategy, FLS drawings, occupant loads and exit capacities and a cursory review of fire protection system and smoke control systems. As part of the GAP analysis, we attended site visits and we also prepared the GAP analysis for the Grand Mosque expansion to documents deficiencies, recommendations and code requirements based on applicable codes and standards as well as Makkah Civil Defence local requirements.

Part of our scope was to prepare a crowd management study of the Sahan, Masaa and surround prayer areas to analyze evacuation times for occupants with different characteristics and recommend strategies for evacuation methods using partial evacuation in addition to providing input on communications, management, zoning, and other procedures. We also attended meetings and presentations with Makkah Civil Defence and Ministry of Finance to present the results of the crowd management and GAP analysis studies.

**King Abdullah Stadium and Sports Facilities Project**  
*Jeddah, KSA*

*Risk Engineering Services*

The King Abdullah Stadium and Sports Facilities Project located in Jeddah consist of main stadium, parking, mosque, athletic stadium, sports hall and sport pitches. The main stadium is the centerpiece of the Stadium and Sports facility which has 60,000 seating capacity. The mosque is the focal point within KASC and will accommodate 500 worshippers in the main prayer hall and 1000 worshippers in the outside prayer area. The sports hall has 2000 seating capacity while the athletic stadium has 1000 seating capacity. We were retained by the Client to provide risk engineering services including Risk Management Survey, Risk Assessment Study and Risk Engineering Report.
EDUCATION

Jubail Industrial College Fire Hydraulic/Protection Laboratory
Al Jubail, KSA

Fire Protection Construction Services, Training Services

The Jubail Industrial College (JIC) provides high practical experience to JIC students. Students can see live demonstrations of fire experiments, fuel load and hazard levels, fully practical demonstration of extinguishing system process, fire procedures, emergency and prevention including evacuation processes.

We designed and constructed the laboratory and provided Fire Protection Course Material for the existing Fire Alarm Laboratory. Our services included design, construction of training demonstration boards, testing, commissioning and training of JIC staff.

Jubail Industrial College Fire Detection/Alarm Laboratory
Jubail, KSA

Fire Protection Construction Services, Training Services

We designed and constructed the laboratory and provided Fire Alarm Course Material for the existing Fire Alarm Laboratory. Our services included design, construction of training demonstration boards, testing, commissioning and training of JIC staff.

MANUFACTURING

Julphar Pharmaceutical Factory
Jeddah, KSA

Fire Safety Services

We provided fire safety consulting services for the Julphar Pharmaceutical Factory Project located in King Abdullah Economic City, Jeddah, KSA. The building components are two (2) Process Buildings (B+G+F) and CUB building (B+G+F) which are connected by underground service corridor. Additionally, the project includes Wastewater Treatment Building (G) and two (2) guard houses (G). The project will be built on a plot area of 73,000 square meters with a total built-up area is approximately 24,000 square meters.
HEALTHCARE

Saudi Ministry of Health – Riyadh
Children’s Hospital
Riyadh, KSA

Pre-Opening Fire and Life Safety Audit Services

Our team served as the fire engineering specialist responsible for conducting fire and life safety site visit and inspection of the Children’s Hospital at King Saud Medical City. The hospital comprises of two (2) basement floors, ground floor and 8 upper floors and a roof.

Saudi Ministry Health requested our team to conduct a review of the fire and life safety systems designs and drawings installed in the facility including but are not limited to floor plans, as-built fire suppressions and alarm system drawings, cause and effects diagram, emergency power and lighting drawings, smoke control system, fire hose and extinguisher layout drawings.

As part of our scope, we also conducted survey of the facility to identify and evaluate deficiencies in smoke compartments, vertical openings, fire rated doors, exiting, building construction, fire alarm systems and sprinkler systems.

Sang Hospitals
Various Locations, KSA

Fire and Life Safety Consulting and Design Services

Our team served as the fire engineering consultant for the Sang Hospitals, a project owned by the National Guard Health Affairs (NGHA). We assisted the Client by performing fire and life safety design review, preparing the fire protection and life safety report, which highlighted the building construction, fire protection and life safety approaches and requirements for the healthcare five (5) healthcare facilities including the following:

- King Abdullah Specialized Children’s Hospital
- KAMC-WR (Project)
- Neuroscience and Trauma Care Centre (6 levels) in Jeddah
- Women’s Hospital (9 levels), in Riyadh
- Taif Specialized Hospital (12 levels)

Middle East Hospital
Riyadh, KSA

Fire and Life Safety Consulting

Our team served as the fire and life safety consultant for the project which consisted of hospital building, a rehabilitation/prevention center, hotel with visiting doctor’s accommodation, a multifunctional building providing nurse accommodation, nurse training center and a mosque.

Our scope included preparing the fire protection and life safety strategy report preparation, fire and life safety plan reviews and preparing the fire and life safety drawings. We also assisted the client by attending meetings and coordinating with the authority having jurisdiction.
Sheikh Said Ali Ghodran Medical Centre
Riyadh, KSA

Smoke Control Analysis
Said Ali Ghodran Medical Centre is a 55,000 square-meter, 90 acute-bed medical center, and 7 story high-rise hospital with associated residential units, assembly spaces and offices. We provided hand calculations for the smoke control systems which included atrium exhaust and stairwell pressurization.

International Extended Care (IEC) Centre
Riyadh, KSA

Fire and Life Safety Consulting Services
Spread over a sprawling 7,000 square meters of greenery, the International Extended Care Centre (IEC) is long-term medical and advanced nursing care. IEC provides support either over an extended period or for life. The medical facilities include: a geriatric home, a nursing home, a long-term acute care hospital, and a rehabilitation center. We provided fire safety consulting services for the project.

King Faisal Specialist Hospital and Research Centre
Jeddah, KSA

Fire and Life Safety Consulting Services
The King Faisal Specialist Hospital (KFSH) new master plan provided inpatient and outpatient care for a total of 430 beds and added new services to the existing hospital campus. The expansion project consisted primarily of 250,000 gross square meters in addition to the existing hospital facility, in addition to both a renovation of the existing healthcare facility and the 10,000 square meters royal ward. The project also included a multi-story connector linking the new medical facility to the existing hospital building, a multi-story parking facility, and a bridge connecting the multi-story parking to the medical facility.

Our firm was retained to provide fire and life safety review services. In this role, we prepared the fire protection and life safety fire strategy report for the expansion project, which highlighted the building construction, fire protection and life safety approaches and requirements for the healthcare facility.
AVIATION + TRANSPORTATION

King Abdul Aziz International Airport  
Jeddah, KSA

Fire and Life Safety Consulting Services

The King Abdul-Aziz International Airport (KAIA) project included the renovation and expansion of the North and South Passenger Terminals. Work area included the airport Automated People Mover (APM) system and adjacent railway station. We developed a comprehensive fire protection plan; conducted smoke control systems rational analysis and design; and performed fire modelling and occupant evacuation modelling. We liaised with Authority Having Jurisdiction to assist in the approvals process.

Makkah Public Transportation  
Makkah, KSA

Dynamic Pedestrian Modelling, Emergency Evacuation Services

Our firm is involved in providing consulting advice for the three stations that are part of the Makkah Public Transportation Program (MPTP), the expansion of the metro system in Makkah to service the anticipated growth in the region and provide improved transport capabilities for the large numbers of pilgrims that migrate to Makkah each year.

Dynamic pedestrian modelling was conducted to assist the Design team in optimizing the design of the vertical circulation, station platform layouts, and operational requirements for the seasonal requirements (Hajj, Ramadan, Friday prayer and normal revenue service) and various crowd management strategies. The models were used as a design tool to assess schematic concepts and identify pinch points. Changes were evaluated, and feedback provided to the team. Concurrently, the life safety requirements of “NFPA 130: Standard for Fixed Guideway Transit and Passenger Rail System” were reviewed to verify compliance.

Dynamic emergency evacuation scenarios were also conducted to verify compliance with “NFPA 130: Standard for Fixed Guideway Transit and Passenger Rail System” for zoned evacuation and full building evacuation scenarios and coordinated with the smoke control strategy in the building.

King Fahad International Airport  
Dammam, KSA

Fire Alarm System Design Services

We provided services for the redesign of the fire alarm system for this air hangar project.
PETROCHEMICAL, OIL + GAS

Saudi Aramco
Various Locations, KSA

Engineer of Record, Fire and Life Safety Consulting and Third-Party Peer Review Services

Our team has served in the role of engineering-of-record as well as third-party professional fire protection engineer for contractors providing and installing fire suppression, alarm and gaseous suppression systems throughout the Kingdom of Saudi Arabia.

We have also provided engineering services for several other Saudi Aramco facilities in the form of third-party review and design of fire protection systems including wet and dry-pipe sprinkler systems, pre-action sprinkler systems, foam-water spray systems, clean agent fire suppression systems, deluge systems and fire alarm systems. In both the third-party review and design capacity, we have been responsible for ensuring compliance with all applicable NFPA codes and standards as well as with Saudi Aramco’s Engineering Standards and expectations. Projects include:

+ UPDC Building No. 9157
+ SEPCO Master Gas System Phase II,
+ Mubarraz Wire Line Building
+ Sulfur Railcar Loading Facility Project
+ Fadhili Site Office and Laydown Project
+ Onshore Maintain Potential Projects SA2
+ Substation Building and Switchyard in Fadhili Gas Plan
+ Saudi KAD Temporary Facilities, Office and Accommodation
+ Qatif ISF Building Expansion
+ New Administration Office Building at Shedgum
+ Construction of New Classroom in Abqaiq
+ Jazan Economic City Port and Infrastructure (JECPI)
+ Berri Gas Plant
+ Jeddah Bulk Plant
+ Ras Tanura Helicopter Hangar
+ Yanbu Refinery
+ Tanajib Helicopter Hangar
+ Electrical Substation No. 1
+ Building No. 3182
+ Yanbu Crude Oil Terminal Area
+ Udhaiiliah Emergency Expansion
+ Corporate Data Centre
+ North Park Office Complex
+ Abu Ali Refinery
+ Qurayyah Independent Power Project (QIPP
+ Wasea Bulk Plan
+ Najran Bulk Plant, Foam-Water Spray System
Firm Overview
We know that nothing is more important to you than the safety and security of what matters most in your world. That’s why we’ve been protecting lives, property and reputation since 1939.

We are a global team of engineers, scientists and consultants dedicated to carrying on a rich legacy of our founders who believed in advancing the science of safety to protect what matters most through technical excellence. Our roots were planted 80 years ago, and we have remained committed to earning our clients’ trust when it comes to addressing the complexities of safety and security.

We have since expanded to operate in more than 100 countries to help meet the growing needs of our clients. We have also over the years, and through additions of specialized, industry-leading firms, continued to build on our core strengths in code consulting, fire protection engineering and risk analysis to now expand our expertise in areas such as forensics, emergency management and security to better support the spectrum of our clients’ priorities from risk mitigation to compliance and resilience.

**Expertise from A to Z**

Our broad range of expertise helps clients maintain safety, minimize risk and save time and money in the design, management and construction of buildings, systems and solutions to protect against the cost of potential losses. We also ensure that our solutions easily fit into our clients’ business objectives, culture and priorities. Having completed tens of thousands of projects worldwide on behalf of our clients, we can create, evaluate, test, assess and implement solutions for a wide range of safety, security and risk-related challenges. From airports, nuclear power plants and museums to laboratories, historic buildings, oil refineries and some of the world’s tallest buildings, we offer comprehensive services.

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**Our Expertise**

- FIRE AND BUILDING SAFETY
- RISK AND HAZARDS
- EMERGENCY MANAGEMENT
- SECURITY RISK CONSULTING
- FORENSICS

**Our Global Reach**

- 90+ Offices Worldwide
- 40,000+ Global Projects
- 1,400+ Employees
Making Your World Safe, Secure + Resilient

We have dedicated our mission to driving our industry forward through technology, knowledge, and best-in-class research and development capabilities to provide the very best solutions for our clients. Our strength lies in the linkage of data and expertise across the life cycle, from failure analysis to modelling, enabling us to bring forward innovative and compliant solutions that preserve architectural and design vision as well as define the critical variables for risk analysis. This shapes our code, design and commissioning approach, and because we have many team members who are deeply engaged and involved in developing regulations and codes, we are consistently at the forefront of change in setting the standards.

EXTENDING THE CULTURE OF SAFE + COMPLIANT OUTCOMES

To share the knowledge of our engineers, research scientists and code experts, we created the JH Academy (JHA) to offer online safety training for industry peers, partners and clients. Additionally, JHA can serve as part of a new hire onboarding process using our proprietary learning management system. Benefits include:

+ Training partner of the Automatic Fire Alarm Association (AFAA)
+ Instructors for National Fire Protection Association (NFPA) programs
+ JHA courses are accredited by The International Association for Continuing Education and Training (IACET)
Company History

OUR PAST, PRESENT + FUTURE

Our clients benefit from our years of experience in the fire protection engineering, building and life safety code consulting, and security consulting and design services. Through a series of mergers and acquisitions, we have expanded its geographic footprint and its service offerings to include a broad range of specialty engineering services. With this growth, we have increased our technical expertise and the resources available to provide our clients with solutions that encompass fire protection, life safety, security and related disciplines. Our services include fire protection and forensic engineering, risk analysis and fire modelling, system design, code consulting, commissioning, research and testing and project management solutions.

Today, we offer a comprehensive, integrated set of engineering and risk management services for every building type and on every continent. We collaborate with building owners, architects, developers and construction teams, real estate property and facility managers, and institutions and government agencies to build long-term relationships based on a proven approach to risk prevention and reduction.

We measure success by the positive response and repeat business of our clients — and ultimately by the performance of our projects in protecting people and property. We have dedicated our mission to driving our industry forward through technology, knowledge, and best-in-class research and development capabilities to provide the very best solutions for our clients. Our strength lies in the linkage of data and expertise across the life cycle, from failure analysis to modelling, enabling us to bring forward innovative and compliant solutions that preserve architectural and design vision as well as define the critical variables for risk analysis. This shapes our code, design and commissioning approach, and because we have many team members who are deeply engaged and involved in developing regulations and codes, we are consistently at the forefront of change in setting the standards.

We re-branded in January 2015 after the historic merger of two of the most experienced and respected specialty fire and life safety engineering and consulting firms, Hughes Associates (Hughes), founded in 1980, and Rolf Jensen & Associates (RJA), founded in 1969. Both Hughes and RJA exhibited the highest level of technical excellence, offered proven on-time and on-budget performance on projects, and developed long-term client relationships. The merger brought together Hughes’ strengths in areas such as research, testing, forensic engineering and risk analysis, and the complementary strengths of RJA in the areas of code consulting, performance-based design and security system design.