AAPL Consulting Engineers

Consulting Services for Engineering

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Business License

Government of Sharjah | حكومة الشارقة
Free Zone Authority | هيئة منطقة حرة

مدينة الشارقة للإعلام
Sharjah Media City

شمس
Shams

Business License | رخصة تجارية

Company Name / إسم الشركة

ايه ايه بي ال للإستشارات الهندسية ذ م م

A A P L CONSULTING ENGINEERS LLC

Formation Type / نوع التأسيس

شركة ذات مسؤولية محدودة

Limited Liability Company

Operating Name / إسم التشغيل

ايه ايه بي ال للإستشارات الهندسية ذ م م

A A P L CONSULTING ENGINEERS LLC

Address / العنوان

مدينة الشارقة للإعلام - الشارقة - إ ع م

Sharjah Media City, Sharjah, UAE

Formation No. / رقم التأسيس

1803600

License No. / رقم الرخصة

1803600.01

License Formation Date / تاريخ إنشاء الرخصة

27-Mar-2018

Expiry Date / تاريخ الإنتهاء

26-Mar-2025

Activities / النشاط/الأنشطة

469 - Non-specialized wholesale trade	469 - البيع بالجملة لطائفة من السلع دون تخصص معين
4690 - Non-specialized wholesale trade	4690 - تجارة الجملة غير المتخصصة
711 - Architectural and engineering activities and related technical consultancy	711 - الأنشطة المعمارية والهندسية والخدمات الاستشارية الفنية المتصلة بها
7110 - Architectural and engineering activities and related technical consultancy	7110 - الأنشطة المعمارية والهندسية والخدمات الاستشارية الفنية المتصلة بها

Managers / المدير/المديرون

Salith Moosa	ساليث موسى
Syam Kumar Gopala Panicker	سيام كومار جوبالا بانيكير

Verification QR

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Page 1 of 1

Sharjah Media City (Shams)
P.O. Box 515000
Sharjah, UAE

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صندوق بريد 515000
الشارقة، الإمارات العربية المتحدة

T 800 Shams (74267)
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الإمارات
THE EMIRATES

Professional Indemnity

THE NEW INDIA ASSURANCE COMPANY LIMITED
P.O. Box : 5701, Dubai, U.A.E. Tel: +971 4 3525563, Fax : +9714 3518544
E-mail : newindia@nia-dubai.com Website : www.nia-dubai.com
(Registered in the Insurance Companies Register under Federal Law (6) of 2007)

ذي نيو انديا اشورنس كومبني ليمتد

PROFESSIONAL INDEMNITY

SCHEDULE

Whereas the Insured named in the Schedule hereto has made to The New India Assurance Company Limited, (hereinafter called "The Company") a written proposal which is the basis of this Contract and is deemed to be incorporated herein and has paid or agreed to pay the Company the Premium herein stated for the insurance hereinafter specified for the period stated in the Schedule or for any further period for which the company may accept payment for the renewal of the policy.
Now the policy Witnesseth that subject to the terms, exclusions, conditions and definitions contained herein or

Policy No 46/911813/PI/001234 **Issued at** Dubai **Issued Date** 06/11/2023
Name & Address A A P L CONSULTING ENGINEERS LLC , PO BOX: 515000 , SHARJAH MEDIA CITY, SHARJAH, UAE
PERIOD OF INSURANCE **From:** 11/11/2023 **To:** 10/11/2024

SUM INSURED: Dhs 1,000,000.00

Nature of Business	Architectural and engineering activities and related technical consultancy	
Limit of Liability	AED 1,000,000/- any one occurrence and in aggregate	AED 1,000,000.00
Location	PO Box: 515000, Sharjah, UAE	
Excess / Deductible	AED 10,000/- for each & every loss	AED 10,000.00
Territorial limit	United Arab Emirates	
Retroactive Date	11-November-2019	
Exclusion	1] All matters known or reported prior to inception 2] Liability arising out of the insured's or their partner's / Director's association, financial or otherwise with any other firm, organization or association	
Subject to	1] Professional Indemnity Policy wordings as attached 2] Premium Payment Warranty - Upfront 3] Communicable Disease Exclusion Clause - LMA5396	

In witness whereof the undersigned being duly authorised by and on behalf of the Company has / have hereunto set his/her hands.

For THE NEW INDIA ASSURANCE COMPANY LIMITED

THE NEW INDIA ASSURANCE CO. LTD Agents Rais Hassan Saadi (Insurance Brokers & Agents) L.L.C. P.O. Box: 5701 DUBAI

Duly Constituted Attorney(s)

Rais Hassan Saadi Insurance Agents L.L.C. : Chief Agent for Dubai & Northern Emirates
SHARJAH OFFICE :P.O. Box : 45722, Sharjah, U.A.E. Tel: +9716 5560312, Fax : +9716 5561862

Regd. & Head Office : New India Assurance Bldg., 87 M.G. Road, Fort, Mumbai - 400 001, India.

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Bestin Baby


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Vaishnav P P


Akshay B


Aswin Raj


Meiprakash R


Basil Mathew Saji


Ashik A


Pooja Jay


Jayalakshmi S R


Jijo Johnson


Arun Appachan


Salith M


Syam G Panicker


Abhilash


Adithya S


Ameer


Ameer


Shibily Sanu


Aswin Prakash


Sabareesh K S


Ragil V R


Sudeep V V


Adarsh V


Sabeer


Kumar S


Abdul Rasheed


Riyazuddin


Sibin K S


Aswin Krishna


Shafeeq M


Mohammed Shibil


Akshay V T

Use this link: [AAPL Consultants - Team]

Privately held and incepted in the year 2010

What We Do

Diversified Engineering Service Provider

Industries Served

Oil & Gas, Nuclear, Infrastructure, Aerospace & Industrial

Employees & Locations

30+ engineers can be multiplied or tripled dependent on project demands and onsite assistance. INDIA, UAE, KSA, Planning for inception in EU.

Vision

To be the most respected and recognized engineering service provider for our clients

Mission

Enhancing customer profitability, Reforming Engineering practice

Core Values

Customer focus, Client relations, Teamwork, Accountability

Industry Specific Service Offering

OIL & GAS/ ENERGY PLANTS

Process Equipment design, Piping and Pipe stress analysis, Hydraulics and surge analysis. Plant design management services, Fitness to service, fatigue and Creep , Failure mitigation services, Root cause analysis etc.

NUCLEAR

Nuclear vessel engineering, Design as per code and Design by analysis. Mechanism derivation and detailed engineering for nuclear process. All types of Vacuum engineering, Nuclear test bed engineering. Failure and Life assessment. Seismic RS calculations for vessels and plants. Automation and Instrumentation

DISTRICT COOLING & HEATING N/W

Routing & 3D modelling, Buried Line calculations, Hydraulics and pressure transient calculation. Load calculation

INFRASTRUCTURE & HIGH RISE BUILDINGS

HVAC and external flows related. MEP related, 3D modelling and Energy Audits. Steel and Civil structural engineering. Building Information Modelling (BIM)




Diversified Services & Tools

- 3D Modelling and Detailed Engineering

  From Concept to detailed engineering for any type of equipment/products/mechanisms.

- Finite Element Analysis

  AAPL FEA solutions provide the ability to simulate every structural aspect of a product including linear/nonlinear/ static/ dynamic, steady/transient to the extend of modal and multi body dynamics.

- Computational Fluid Dynamics

  Our CFD services include services pertaining to process equipment, reactors and vessels. In addition we have the capability to simulate multi phase, external aerodynamics and internal flows. The application areas include Nuclear, Oil and gas, Aerospace, High rise buildings etc.

Diversified Services & Tools

- Surge Analysis & Hydraulics

  Assured flow through hydraulics and Surge analysis is the prime motive of this service. This offers absolute flow efficiency and continuous flow. The calculations further involves the phenomenon of pressure transients.

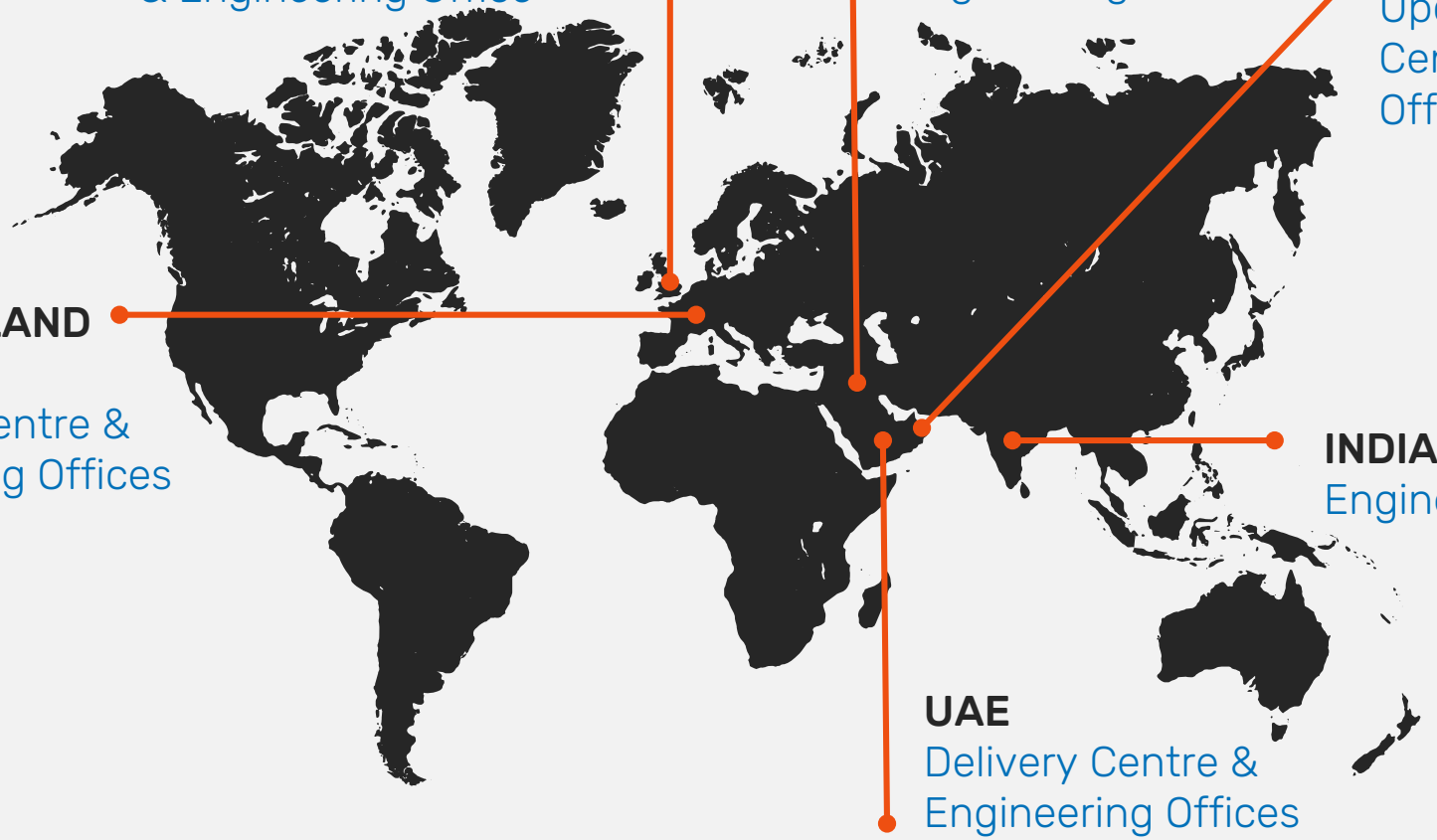
- Pipe stress Analysis

  AAPL FEA solutions provide the ability to simulate every structural aspect of a product including linear/nonlinear/ static/ dynamic, steady/transient to the extend of modal and multi body dynamics.

- Seismic and Vibration studies

  This includes dynamic seismic virtual testing using simulation tools. The service is offered for all sought of mechanical structures. The service further extends to vibration and modal studies

Foot-Print



UNITED KINGDOM
Upcoming Delivery Centre & Engineering Office

SAUDI ARABIA
Delivery Centre & Engineering Offices

OMAN
Upcoming Delivery Centre & Engineering Office

SWITZERLAND
Upcoming Delivery Centre & Engineering Offices

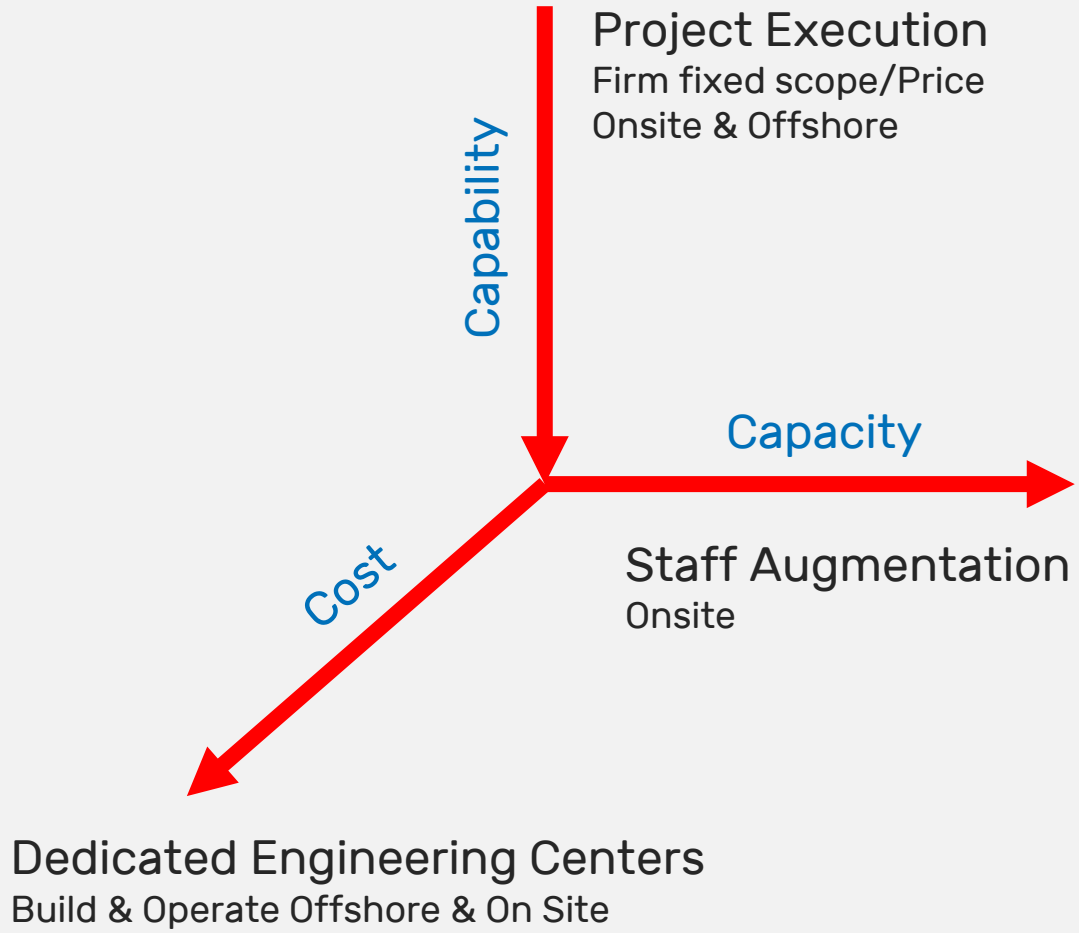
INDIA
Engineering Offices

UAE
Delivery Centre & Engineering Offices

Engagement & Delivery Models

Local & Global Involvement :

- Reduced Infrastructure Cost for Clients
- Mitigate co employment risks
- Program management and customer interface
- Independently manage local and global team



Why AAPL

100% involvement in product development & support services

Passionate, agile, flexible & responsive team

Cost and capability advantage through collaborate local-global model

Range of flexible operative business model

13 years of engineering expertise with highly mature offshoring process

Few of Our Clients

Few of Our Clients

Nuclear Industry

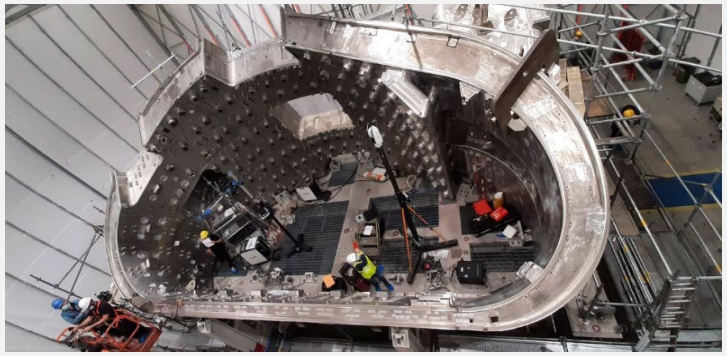
Analytical Design & FEA Validation of Large Seal Test Rig for Nuclear Applications

Scope A :
Finite Element Analysis Calculation

- Static structural analysis under self weight/dead loads
- Transient thermal simulation with radiation model
- Thermal structural coupled analysis

Scope B:
Analytical design calculation of the structure

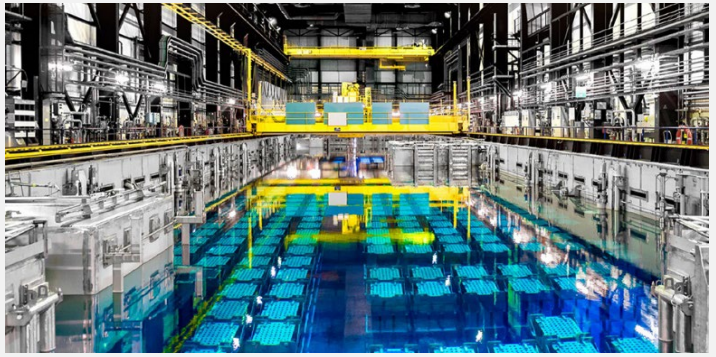
Scope C:
- Design Risk assessment
- Safety Analysis



Finite Element Validation of Double Wall Vacuum Vessel for Nuclear Application

Scope A :
Finite Element Analysis Calculation

- Static structural analysis prior to Vacuum
- Static structural analysis in vacuumized condition
- Static structural analysis in hydrotest condition



Nuclear fuel reprocessing station: Concept to detailed Engineering

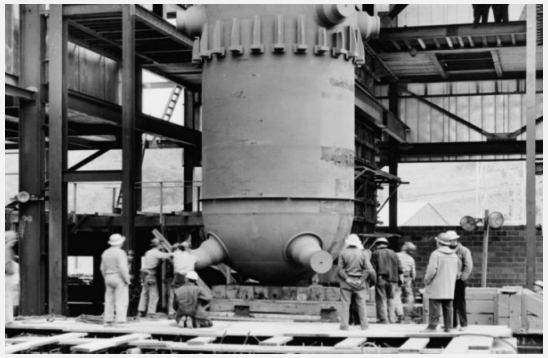
Scope A :
Advanced Cathode Processor, station concept

Concept detailing, Mechanism definition
Kinematics and Tolerance analysis
3D Modelling and detailed Engineering

Scope B:
Automation and Instrumentation to suit non human access atmosphere

Scope C:
Design Risk assessment
Safety Analysis

Nuclear Industry



Thermal Calculations for double walled vessel used for Nuclear Applications

Scope A :
Finite Element Analysis Calculation

- Transient thermal analysis (Radiation Model)
- Heat flux distribution calculations
- CFD/Conjugate heat transfer calculations so as to determine coolant flow rate

INTF Test Vessel Design – Diagnostic Neutral Beam for Nuclear Applications

Scope A :
ASME Section V111 Calculations for Vacuum Vessel

Scope B:
Finite Element Analysis

- Thermal structural coupled analysis
- Response spectrum analysis for seismic loading
- Modal analysis under operating conditions
- Static structural analysis under all operating loads

Analytical Design & FEA Validation of Horton Sphere

Scope A :
Design calculation as per ASME Section V111 Div. 2

Scope B :

- Design by Analysis (Failure Analysis).
- Buckling & Fatigue
- Design of entire support assembly
- Thermal coupled structural analysis
- Wind load and seismic analysis

Vacuum Distillation Vessel: Design & Detailing

- Mechanism Design & Automation for ADVANCED CATHODE PROCESSOR Unit & Accessories

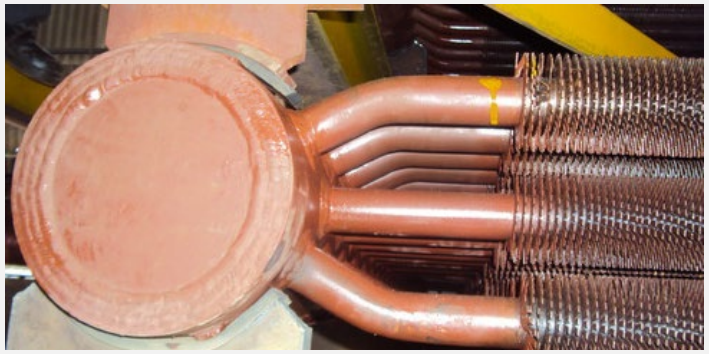
- Detailed design of following Mechanisms is done,
  - Mobile Portion of ACP
  - Horizontal Travel Mechanism
  - Vertical Travel Mechanism
  - Midway Holding Mechanism
  - Clamping/ De Clamping

Oil & Gas Industry

Piping Skid Engineering

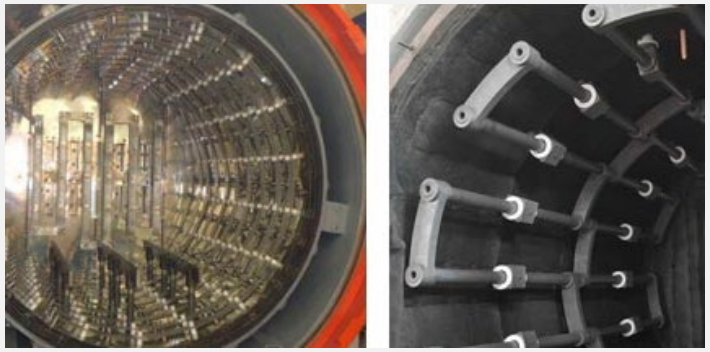
- Stress Analysis
- Piping Isometrics

- Piping Flexibility Analysis- Static, Dynamic & Wind Load Analysis
- Flexibility of piping (W/WO Wind & Seismic Loading- (under operating, design, wind load and seismic loading conditions.
- Code Compliance : ASME 31.3,ASCE 7, SABP-006, SAES-A-112
- Final Piping & Structural MTO, Piping Isometrics drawings for all lines in the skids
- Detailed fabrication drawings for the skids



Failure Study CHT of HRSG Tube Raft Listed Scope

- Evaluate internal and/or external flow distribution of failed tubes to identify presence of any stagnation points/zone using CHT/CFD.
- FEM Analysis with observation on stress pattern, thermal fatigue effects and recommendations on cause of failure
- CFD/CHT Analysis with observation on flow pattern, temperature pattern on tubes, presence of stagnation points and suggestion on possible cause of failure



CHT of Heating Chamber Listed Scope

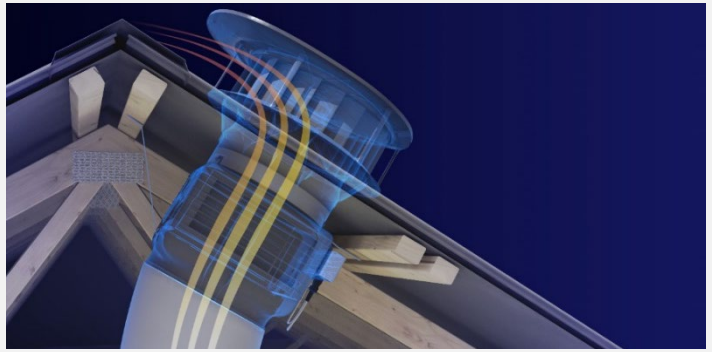
- Thermal Analysis of Heating Chamber (Radiation model)
- Transient Thermal analysis (Radiation model) to get the temperature plots
- Heat flux distribution and Identify Temperature value at vessel inner surface
- CFD / CHT analysis to identify the coolant flow rate based on temperature generated from FEA radiation

Oil & Gas Industry

Double Wall Furnace Design Listed Scope

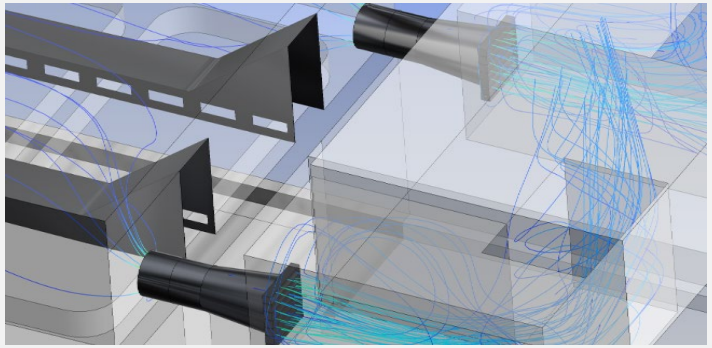
ASME Code Verification for Cold Walled Controlled Atmosphere Brazing Furnace

- Inner Shell for internal and external pressure
- Calculation of stiffener ring
- Outer Shell for internal and external pressure
- Calculation of stiffener ring
- Inner Shell Dish
- Outer Shell Dish
- Flange Validation & Effect of Bolting
- Nozzle Reinforcement calculations for 500 NB port



Venting Well Design & Flow Stabilization Listed Scope

- A steady state CFD analysis if performed for the case to estimate the mass flow rate and flow pattern in the venting well. A length of 20m is considered for the underground pipe which is concentric with the fan. A straightener of length 1m and thickness 6mm is considered at section of pipe near the diverging section at bottom.
- CFD analysis is performed in ANSYS FLUENT. Geometry is modelled in CATIA and meshed in ANSYS WORKBENCH MESH. The domain was meshed with 5.7 million tetra and prism elements.



Tunnel Exhaust CFD Simulation Listed Scope

- The project statement is to study the cause of vibration happening in duct and damage of blade at one of the Metro Station
- Steady state CFD analysis of 3D geometry is done with Multi Reference Frame (MRF) model.
- To eliminate the flow reversals and wake in inlet duct and plenum, a series of guide vanes is designed by which effectively mitigated the reversals/wake.

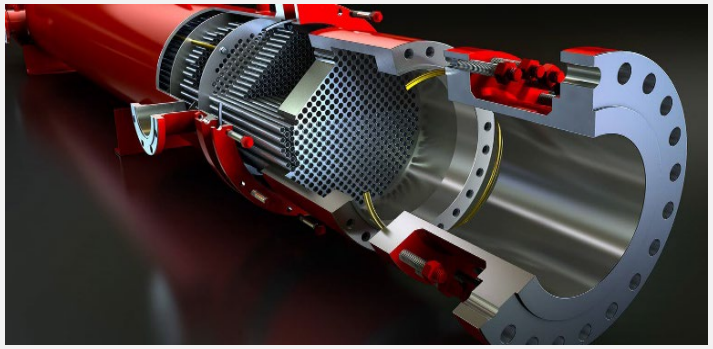
Oil & Gas Industry

Pressure Vessel Design & Engineering

- Mechanical Design & Validation with Code ASME Sec Viii Div 1 & PED – Codal check
- Mechanical Design with PV Elite 2016
- Design for Internal & External Pressure
- Design of Nozzle & Flanges
- Sizing of Saddle
- Hydro test Check
- Limits of reinforcement Check
- Detailed Drawing with AutoCAD

Flow analysis WHB

- CFD of RA & GT Duct, Mixing Chamber Assembly (as built model) actual.
- Better flow guidance to avoid flow induced vibration by providing guide vanes
- CFD simulation based on PFD DATA and Operating Trends
- CFD simulation with and without super heater chamber
- Remodelling with Longitudinal and Transverse guide vanes



Heat Exchanger Design

- Mechanical Design PD5500 & PED – Codal check
- Mechanical Design with PV Elite 2016
- Design of Main shell, Channels & covers
- Design of Fixed & Floating tube sheet with Backing Ring
- Design of tube bundle layout
- Sizing of longitudinal & transverse baffles
- Sizing of partition plates
- Saddle design & Layout
- Selection of Nozzles & Flanges
- Design for Blast load, Slug load & Lifting condition
- Generation of Detail drawings & GA drawings with MTO

Infra Structure & High Rise

Comflor Decking Slab Structural Substantiation Listed Scope

- Defined is to identify the load bearing capacity of Comflor 51 Deck Slab Structure for the derived loads for Cable trays, Ducts, Pipes and Equipment along with dead load and live load as applicable.
- The behavior of composite concrete slabs with steel decking for the considered geometry has been investigated in this report using the finite element method. For the area considered with a 51 mm deep steel decking profile and for the selected loading conditions, in multiple numerical analyses it is found that the structure is Safe.

District Cooling Network Surge Analysis Listed Scope

The study involves defining the required operational trends and simulating the same to obtain accurate data's pertaining to various flow regime and interpreting the same graphically and numerically. All the factors involved/considered in the study are included in the report.

District Cooling Network Pipe Stress Analysis

The Scope of work defined is to do Pipe Stress Analysis of CHW Lines for DISTRICT COOLING PLANT FOR THE ECHO PLEX Project per ASME B 31.1.

- Piping Code ASME B 31.1
- The software used for simulation is Intergraph Caesar 11
- The delivery list includes reports with plots, sketches etc.
- Detailed piping support calculations
- Support Mark Shop Drawings

Infra Structure & High Rise

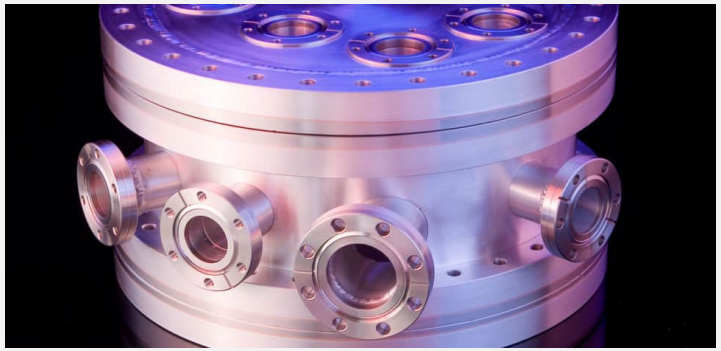
District Cooling Network Hydraulic Analysis Listed Scope

The system comprises of Primary Chilled water Pumps (PCHWP), TES Water Pumps (TESP), and Secondary Chilled water Pumps (SCHWP) in the district cooling plant. The scope is to evaluate the entire pressure and velocity distribution pattern in the network.

- Detailed report with figures/plots/sketches
- Pressure Profile
- Velocity Profile
- Fluid Parameters at all relevant points in the circuit
- Details on Pipe drag force

CFD Analysis, Smoke & Visibility Studies Car Park

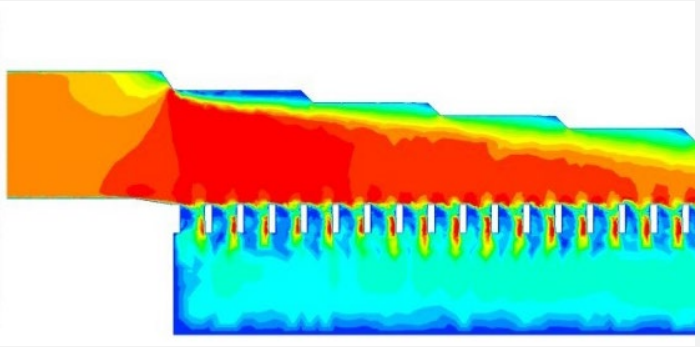
Indoor Car parks are generally constructed in multistorey apartments, shopping complex, hospitals, theatres and other commercial spaces. The general difficulties that are faced in the indoor car parks under normal conditions are increased level of carbon monoxide concentration. In order to bring the concentration levels under control, ventilation systems are provided.



Large Size UHV Class Vacuum Vessel for Indian Test Facility (INTF)

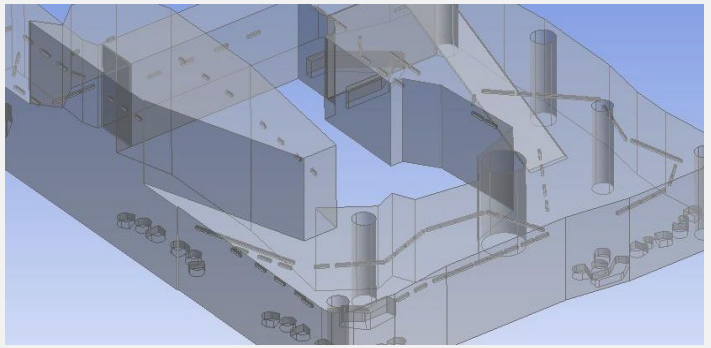
- Thickness summary & nozzle summary evaluation, Flange design & Validation, Large Flange design
- Support design & validation, Stiffener optimization & weld check
- FEM Validation – Thermal - Static Coupled Analysis, Seismic Analysis, Non-linear Buckling analysis

Infra Structure & High Rise



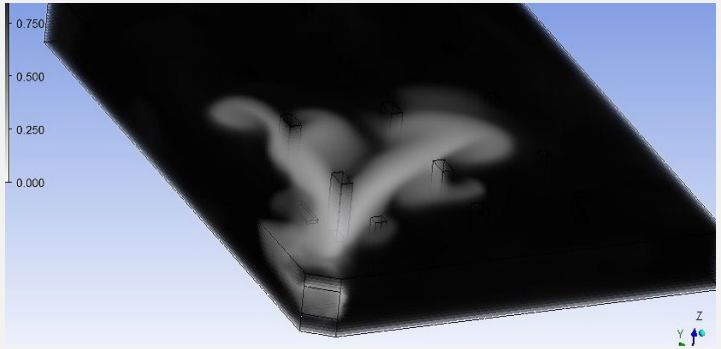
CFD Simulation of Shooting Range for improved ventilation design

- Revised Input Study & Flow parameters identification
- CFD – Model built up [Remodelled Due to Room Length Change & inclusion of Diffusers, Fire Damper & Filters]:
- Numerical Approach , Flow Models selection
- Flow Profile , Streamlines , Velocity Contours
- Air stratification zones, Hook Zones, Recirculation detection
- Project Documentation

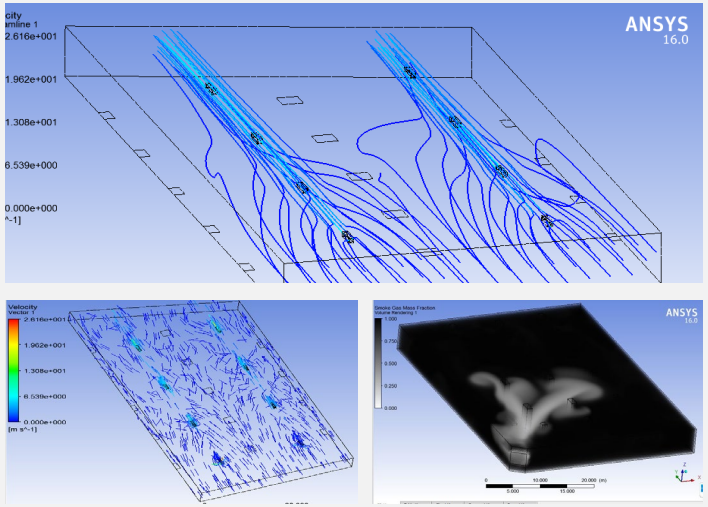


Thermal comfort analysis
As per ASHRAE for Hospitality Industry

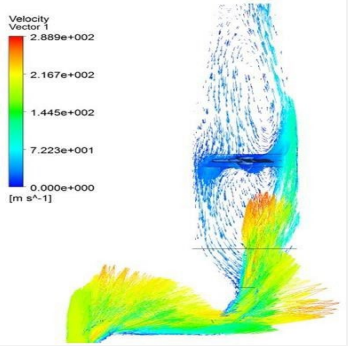
- Scope of the work is to carry out Thermal comfort study for different conditions
- Find Predicted Mean Vote (PMV)
- Find Predicted Percentage of Dissatisfied (PPD)
- Flow pattern inside room
- Hot/Cold spots inside room

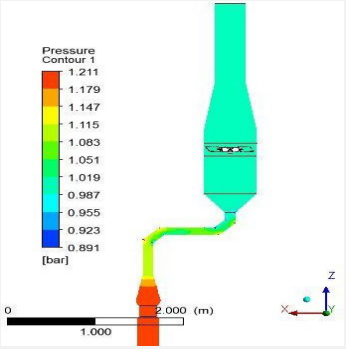


CFD Analysis for Car Parking ventilation



Infra Structure & High Rise





CFD Analysis of Venting Well

The CFD simulation includes steady state analysis & transient analysis of 3D geometry with pressure inlet / mass flow inlet and pressure outlet condition. Analysis is done with Multi Reference Frame (MRF) model with fan rpm as added input to simulate real time behaviour. As the pressure inside the pit is an unknown parameter, the analysis approach followed is to simulate the flow of gases with positive and negative (vacuum) feed pressures and calculate the exit mass flow rate availed. Simulation is also done for rated mass flow rate and the fluid behaviour is cross verified. Transient case is done to check the mass fraction of gas extracted as time progresses.

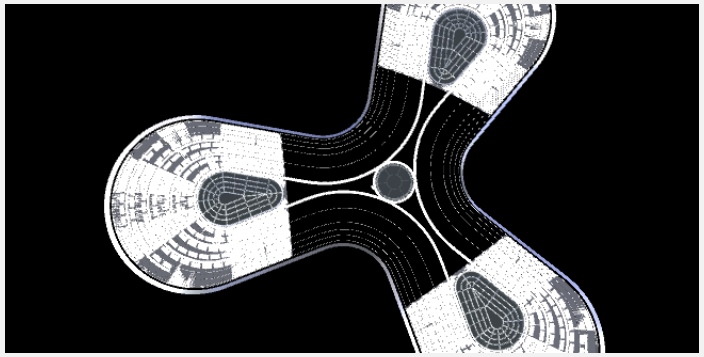
Inertia Reel Cord Mechanism

- Design of Inertia Reel Cord mechanism
- Elastic Limit Calculations for cord, Calculations for the drum- reliability
- Tightening force calculations & Spring Design
- Mechanism definition and DMU Rotary drum and cord under tensile force

Mobile Inverter Cabinet Thermal Design & HVAC Design

- Thermal Design & HVAC Design of mobile inverter cabinet for effective cooling.
- Load Calculation and Duct Routing Schematic for an Invertor Cabinet
- CFD analysis of the HVAC duct distributors to identify the flow Pattern and eliminations of hot spots caused due to heat sources.

Infra Structure & High Rise

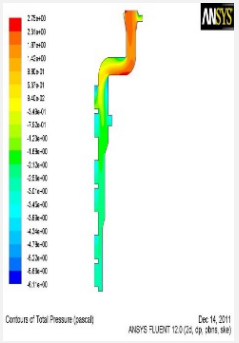


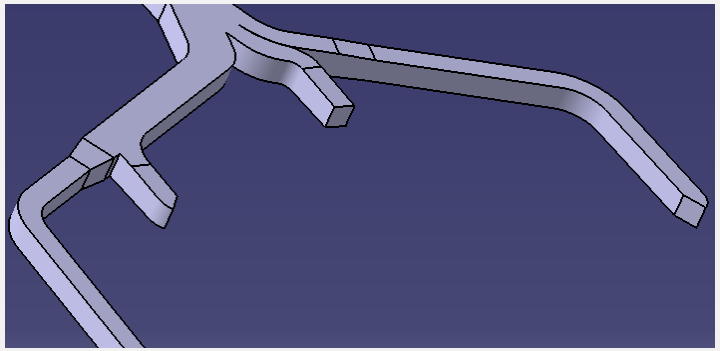
CFD Analysis of Roof Mounted Solar Panel

- The project scope is to do CFD analysis of solar panel arrangement to evaluate the pressure acting on the panels and subsequently the load transferred to mounts and supports.
- The approach followed in this investigation is to simulate one petal of the pavilion with different wind directions and consider the severe case for calculating the forces. The CFD simulation includes steady state analysis of 3D geometry with wind velocity inlet and pressure outlet condition.
- The analysis outcome reveals that, maximum pressure acting on the panel is 1.50 kPa when wind blowing from north east direction

HVAC Design, CFD Analysis of Ducts

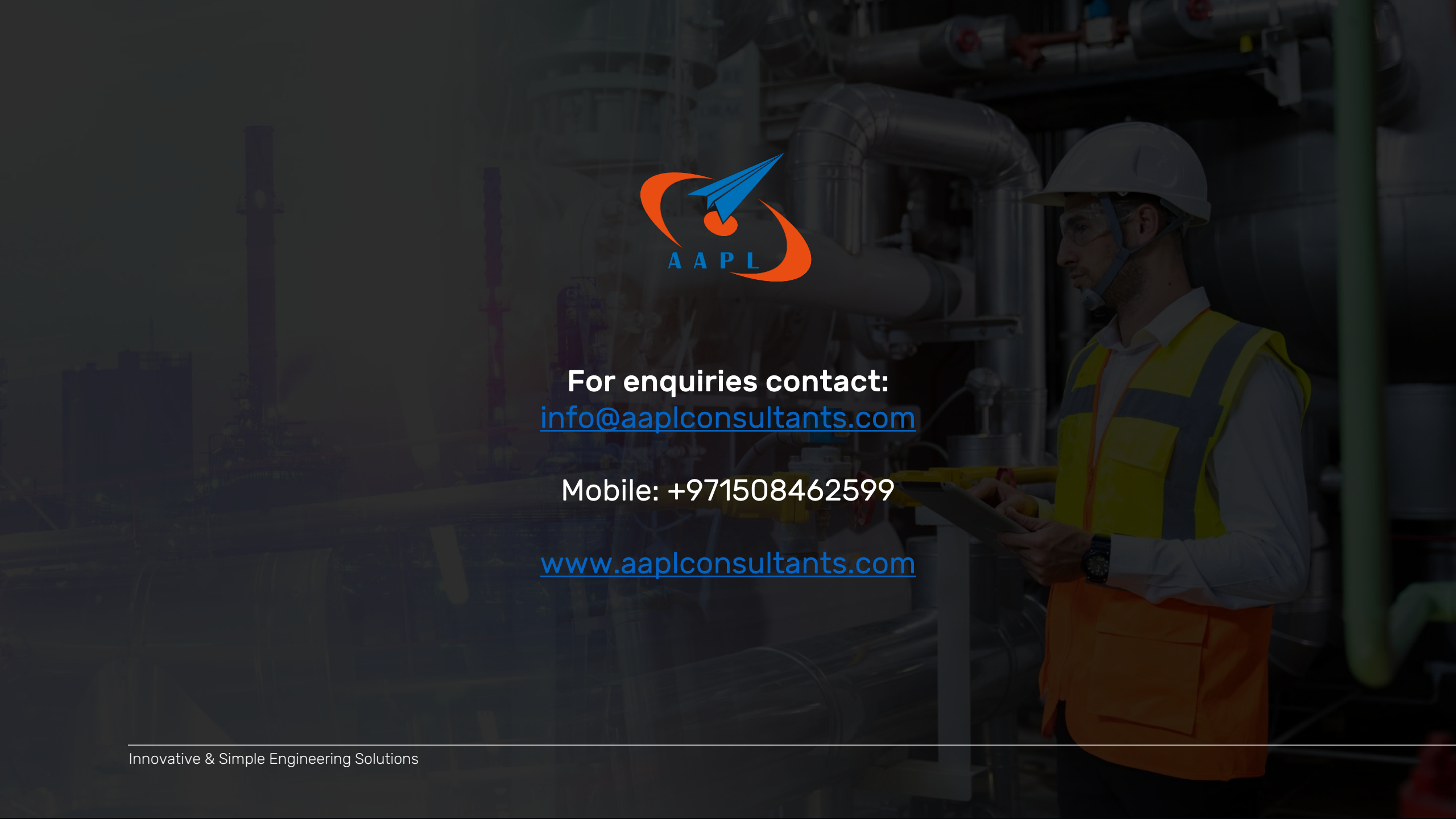
CFD Analysis of HVAC Duct to find the optimized flow parameters





HVAC Duct Design and Validation using CFD

- Design of ducts & complete layout of HVAC packaged system
- 3 D modelling of the HVAC from 2 D drawing
- Design validation with CFD analysis Design Optimization with CFD analysis for possible duct configuration for uniform flow profile and minimum pressure loss.



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