



THE
GLOBAL LEADER
IN
**TOTAL
INFRASTRUCTURE
SOLUTIONS**

www.kewaunee.in

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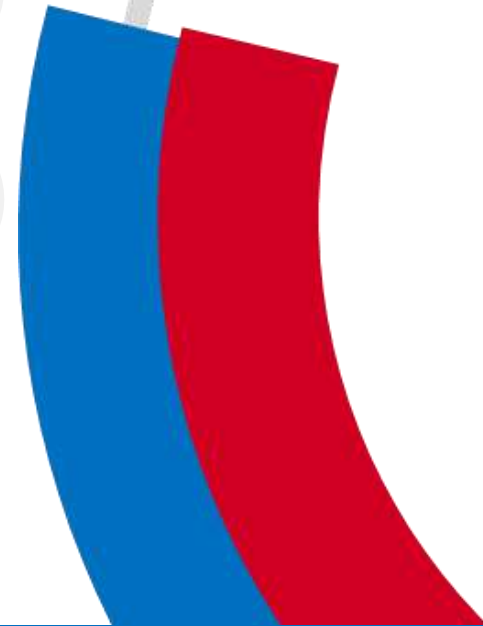
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COMMISIONING &
VALIDATION



ABOUT US

WHO WE ARE

Over our 110+ years of existence, Kewaunee has grown to be a world leader in the design, manufacture, and installation of laboratory solutions and services.

Our corporate headquarters is in Statesville, North Carolina USA. The international headquarters is in Bengaluru, India.

State of the art manufacturing facilities are in Statesville serving the domestic and international markets, and another facility in Bengaluru, India serving the local and Asian markets.



Established 1906

25m+ Lab Space Built

1,050+ Turnkey Lab Projects

300,000+ Fume Hoods Installed

Global Manufacturing Plants In USA & India

Holistic Manufacturing, Infrastructure & Industry 4.0 Solutions

Offices – USA, India, Singapore, Kingdom Of Saudi Arabia

WORLDWIDE NETWORK...

\$200~m
Revenue

[NASDAQ](#)

5,000+
Customers

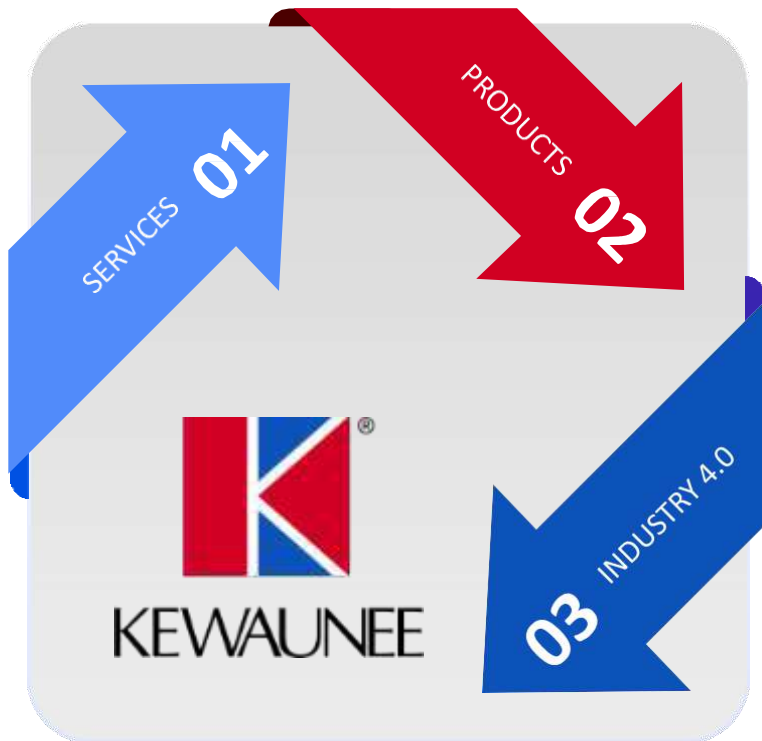
1,000+
Associates

ABOUT US

WHAT WE DO



Whether your project is a brand-new multi-story research centre, or the remodel of an existing lab, Kewaunee provides the full range of services from design and engineering, through the final installation and start-up.



SERVICES

CONSULTANCY

- † Site Feasibility Studies
- † Lab Planning & Design
- † Green Engineering (LEED)
- † Value Engineering
- † Safety, Audit, and Training

TURNKEY SERVICES

- † EPC & Project Management
- † HVAC, Exhaust, Gas, Electrical, Fire, Plumbing
- † CGLP/CGMP validations
- † Build & Commission

MANAGED SERVICES

- † Lab Infra Management
- † Managed Services
- † AMC
- † Spares & Parts
- † Tailored People Solutions

PRODUCTS

VENTILATED DEVICES

- † Fume Hoods
- † Bio Safety Cabinets
- † Laminar Flow Hood
- † Local Exhaust Ventilation
- † Ductless Fume Hood

LAB FURNITURE

- † Safety/Storage Cabinets
- † Adaptable/Modular Furniture (Class 1 to 8)
- † Case Works – Metal, PP, Wood, Steel, and more

ACCESSORIES

- † Work Surfaces
- † Sinks
- † Emergency Equipment
- † Fixtures & Fittings
- † Accessories

INDUSTRY 4.0

DESIGN & PLANNING

- † 3D BIM
- † CFD design for HVAC
- † VR & AR for Lab Design
- † Efficax Cloud for Lab

LAB CONSTRUCTION

- † Kewaunee Green Guardian IOT Solution
- † K-Smart Project Management

LAB OPERATIONS

- † Digital Twins
- † KGG IOT
- † AR & VR Training

ABOUT US

INDUSTRIES WE SERVE



PHARMACEUTICALS ➔



BIOTECHNOLOGY ➔



CHEMICAL ➔



PETROLEUM ➔



ELECTRONICS ➔



HEALTHCARE ➔



EDUCATION ➔



FOOD & BEVERAGE ➔



FRAGRANCE ➔



MARINE RESEARCH ➔



DEFENCE ➔



FORENSICS ➔

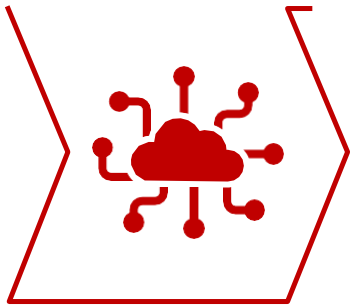
Kewaunee's expertise lies in designing and building laboratories suited for specific industries. Having developed specialised laboratories practically across all industry segments, we believe each industry and sector needs a tailored solution, not a template.

ABOUT US

6 KEY SUCCESS FACTORS



1



TECHNOLOGY

Tech-enabled
fit-out company
(*Business Process
Automation*)

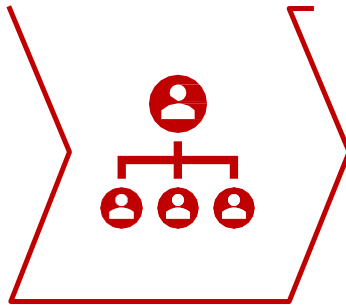
2



RELATIONSHIP

2-decade
longstanding
Business
Relationships with
Suppliers/ Partners

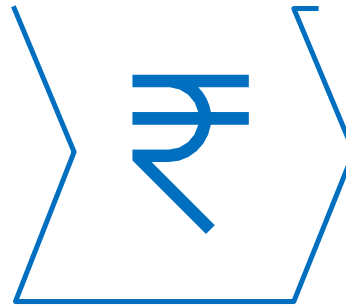
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LEADERSHIP

Top Management
engagement and
ownership

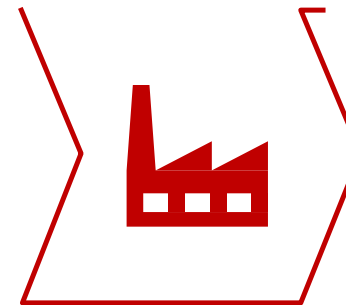
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RESOURCEFUL

Robust
Financials

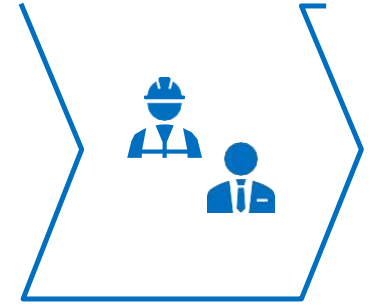
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INFRASTRUCTURE

State-of-the-art
company-owned
Factory

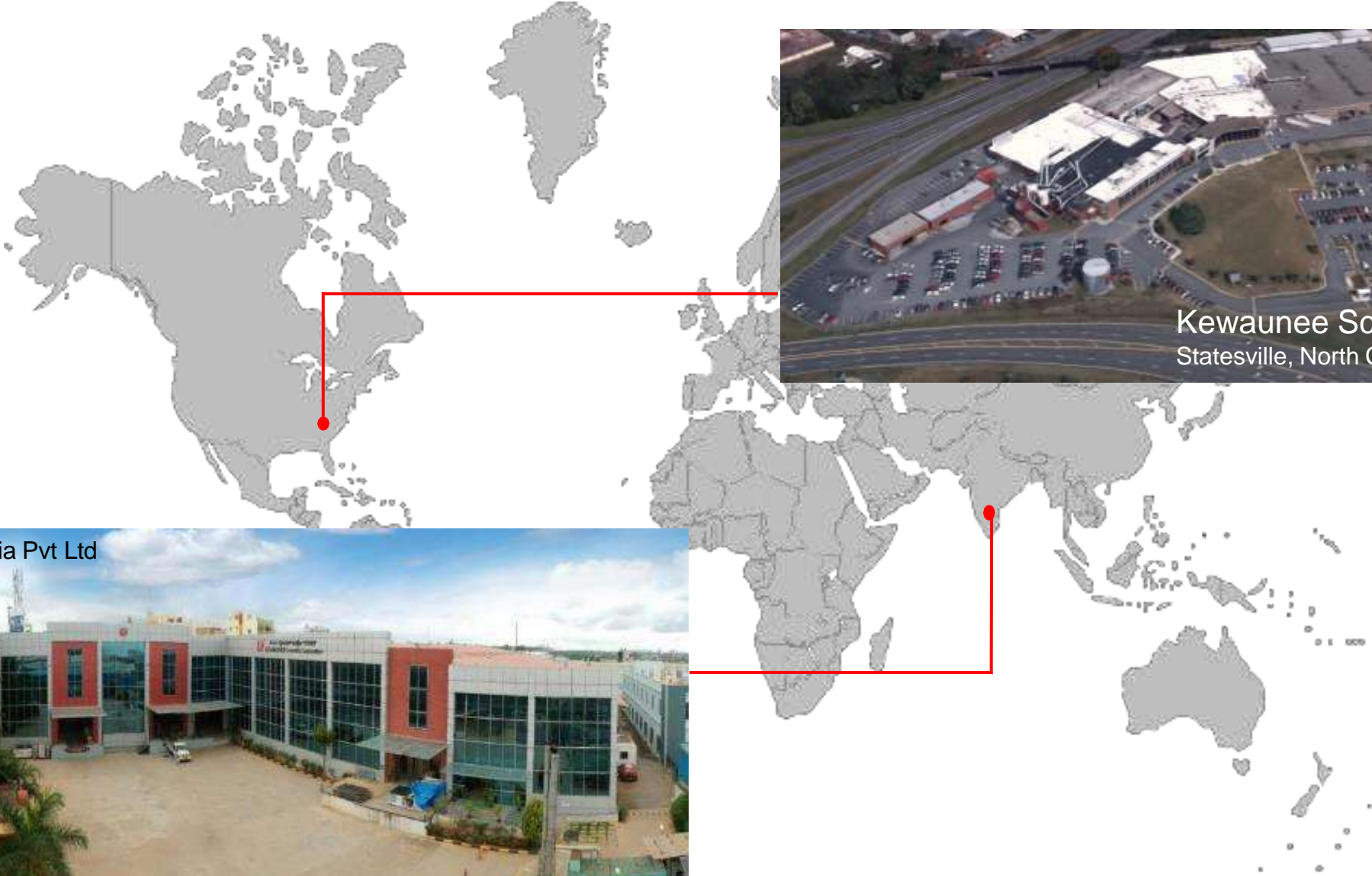
6



PROFICIENT

Highly experienced
and professional
Projects Delivery
Team

OUR GLOBAL MANUFACTURING FACILITIES



Kewaunee Scientific Corporation
Statesville, North Carolina 28677

Kewaunee Labway India Pvt Ltd
Bangalore, India



OUR TEAM

A

Thomas D. Hull III

President, Chief Executive Officer

B

Donald T Gardner III

Vice President - CFO

C

B. Sathyamurthy

VP Intl Ops (KSC), & MD Intl Ops

D

Kurt P Rindoks

VP – Global PD & Strategic Alliances

E

Douglas J Batdorff

VP – Manufacturing Operations

F

Srinivas P N

Vice President - South Asia, Middle East & Africa

G

Gopal S B

Director – Business Excellence

H

Subrato Dey

Vice President – Engineering, India

I

Manish Dimri

Business Head – India, Lab Infrastructure



AND A 1,000 MORE ...



KEWAUNEE

OUR CAPABILITY



WHY KEWAUNEE?



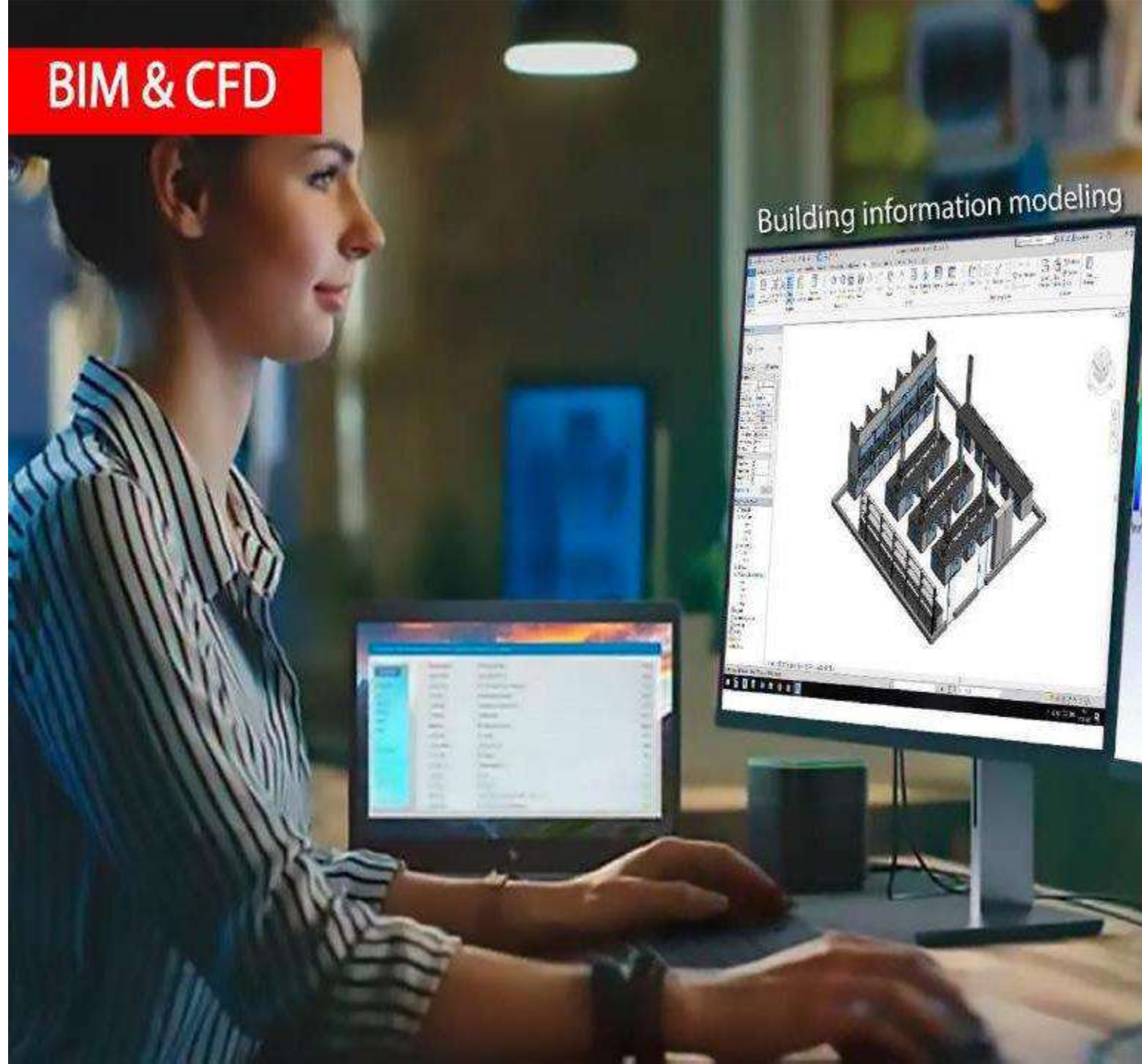
**WE TAKE COMPLETE
DESIGN & BUILD
RESPONSIBILITY**

- Design & Engineering
- Supply & Installation
- Commissioning & Validation
- After Sales Service
- Industry 4.0 Technology Solutions

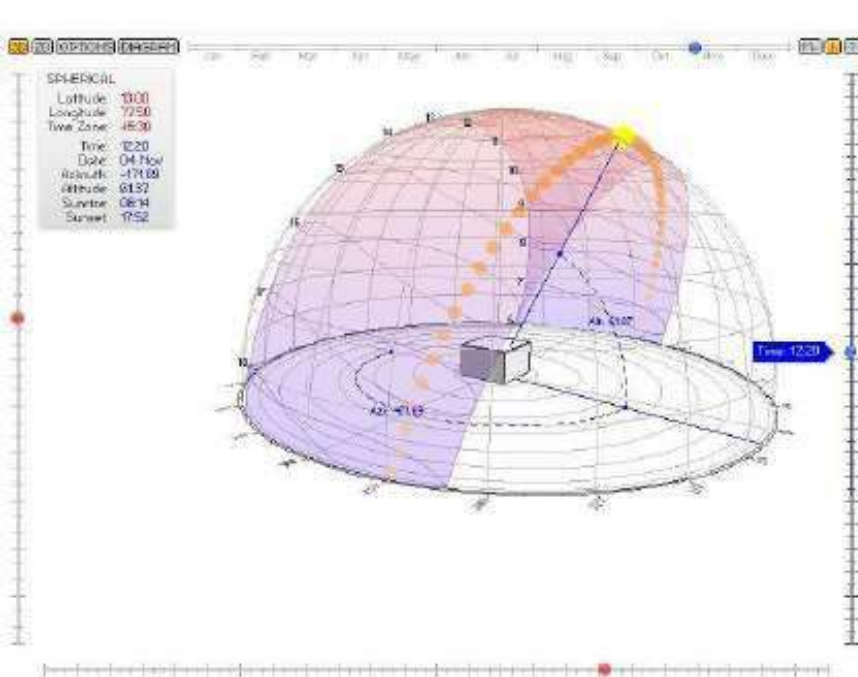


Design & Engineering

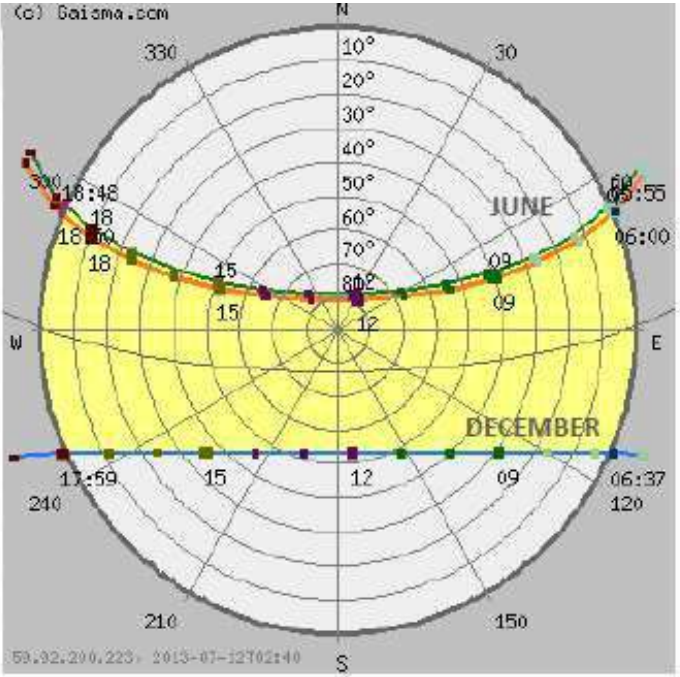
Design - Build



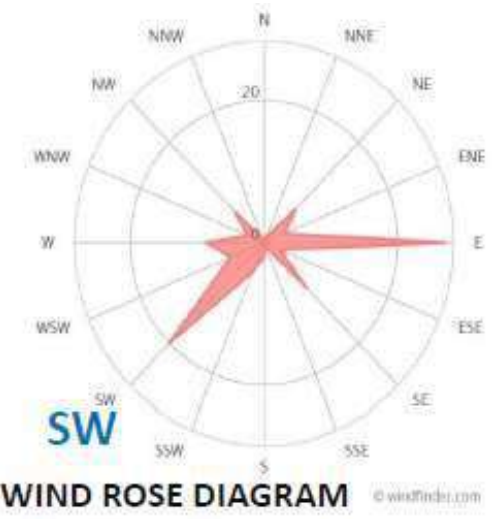
ARCHITECTURAL SERVICES: CLIMATE SURVEY



SOLAR MOVEMENT

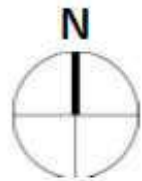


SOLAR PATH



WIND ROSE DIAGRAM

- SOLAR INTENSITY IS MAXIMUM ON EAST AND WEST DIRECTIONS
- BUILDING WITH LONGER SIDES FACING NORTH AND SOUTH ARE MOST EFFICIENT
- LEAST HEAT AND GLARE FROM NORTH SIDE
- MAJORITY WINDS FROM SOUTH-WEST

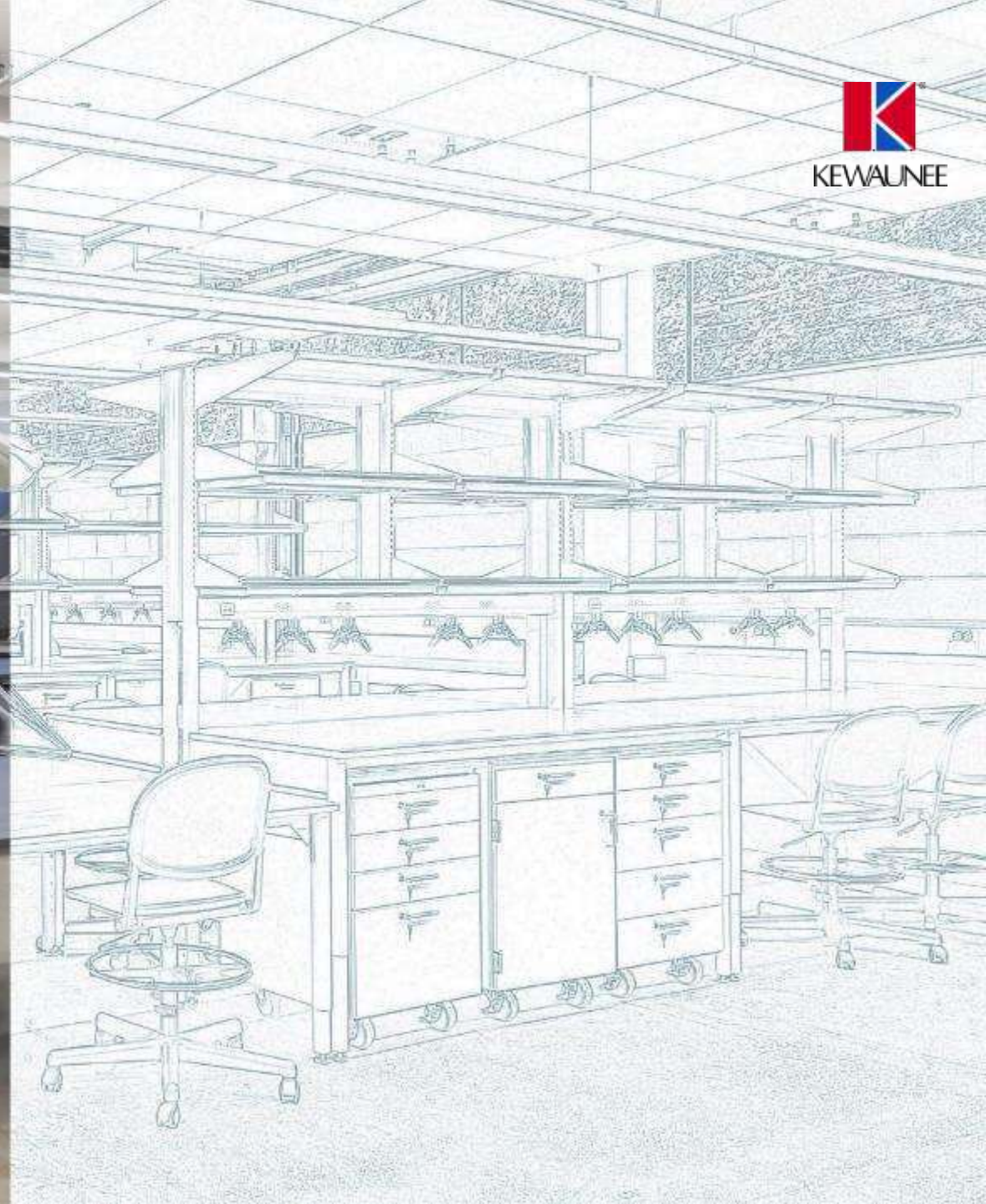


MONTHLY MEAN AVERAGES

Variable	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII
Temperature, °C	23.10	25.67	28.23	28.53	28.93	27.45	26.72	26.83	26.89	25.19	23.41	22.62
Wind speed, m/s	3.48	3.68	3.68	3.71	4.07	4.88	4.80	4.48	3.41	3.09	3.22	3.61
Rainfall, mm	3	7	10	41	109	75	96	122	192	155	65	19
Wet days, d	0.2	0.4	0.6	2.6	5.9	5.2	7.2	8.6	9.3	7.4	3.8	1.7



Lab Planning & Engineering





Supply & Installation

Total Facility Fit-out



Lab Fit-out



KEWAUNEE

- LAB PARTITIONS, DOORS
- LAB FURNISHING
- CEILING & LIGHTING
- LAB FLOORING – EPOXY / VINYL / TILE

Office Fit-out



KEWAUNEE

- OFFICE PARTITIONS, DOORS
- OFFICE FURNISHING
- CEILING & LIGHTING
- OFFICE FLOORING – MATT/ TILE

External Developments



Common Effluent Treatment



Exhaust System



Technical Area



KEWAUNEE

Gas Distribution System



SPECIALITY GAS EQUIPMENT

N2

N2



KEWAUNEE

Commissioning & Validation

As per ASHRAE



Commissioning

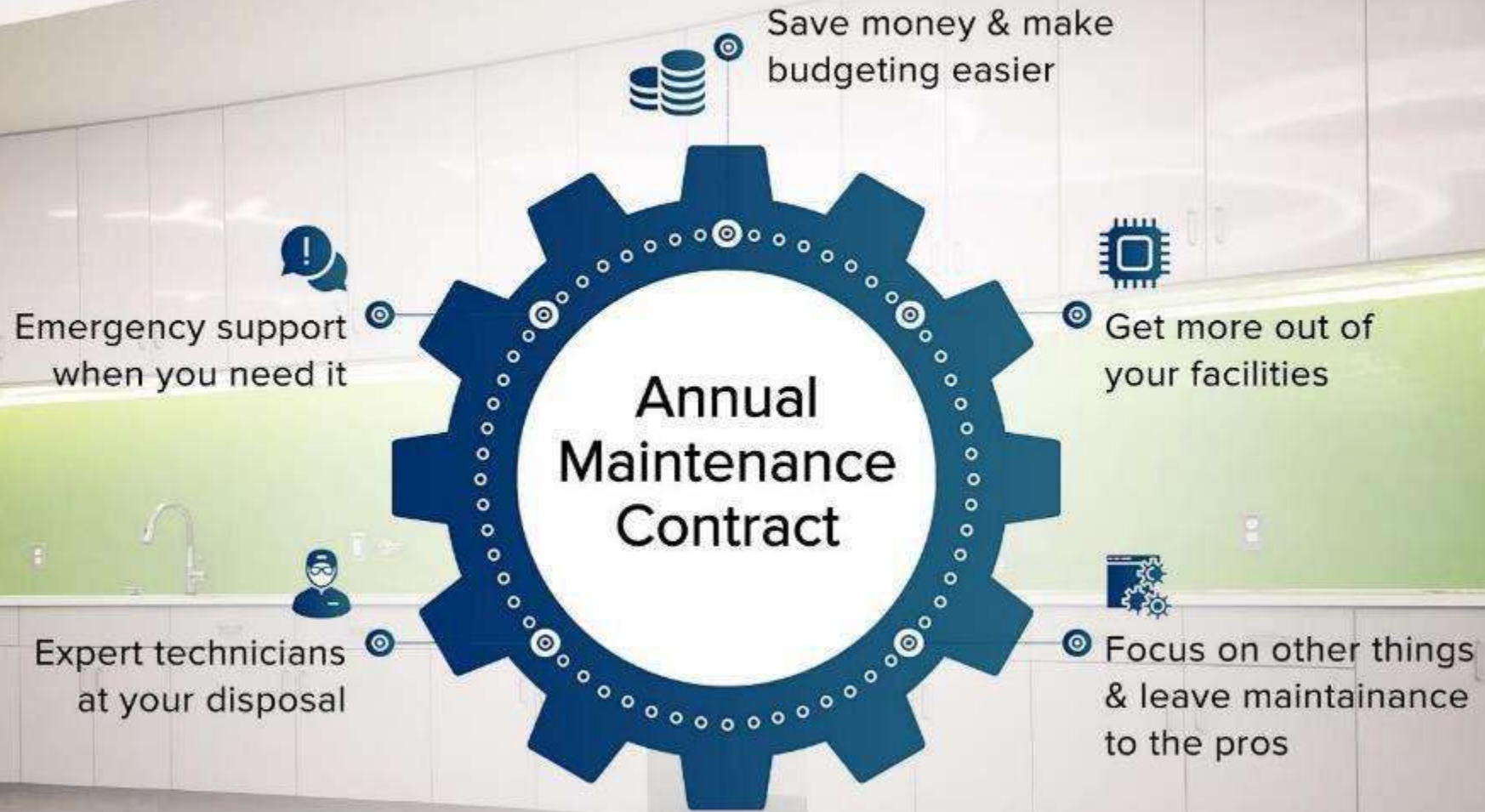




After Sales Service

24x7 Functional Labs







Industry 4.0 Solutions

Innovations & Technology

INDUSTRY 4.0





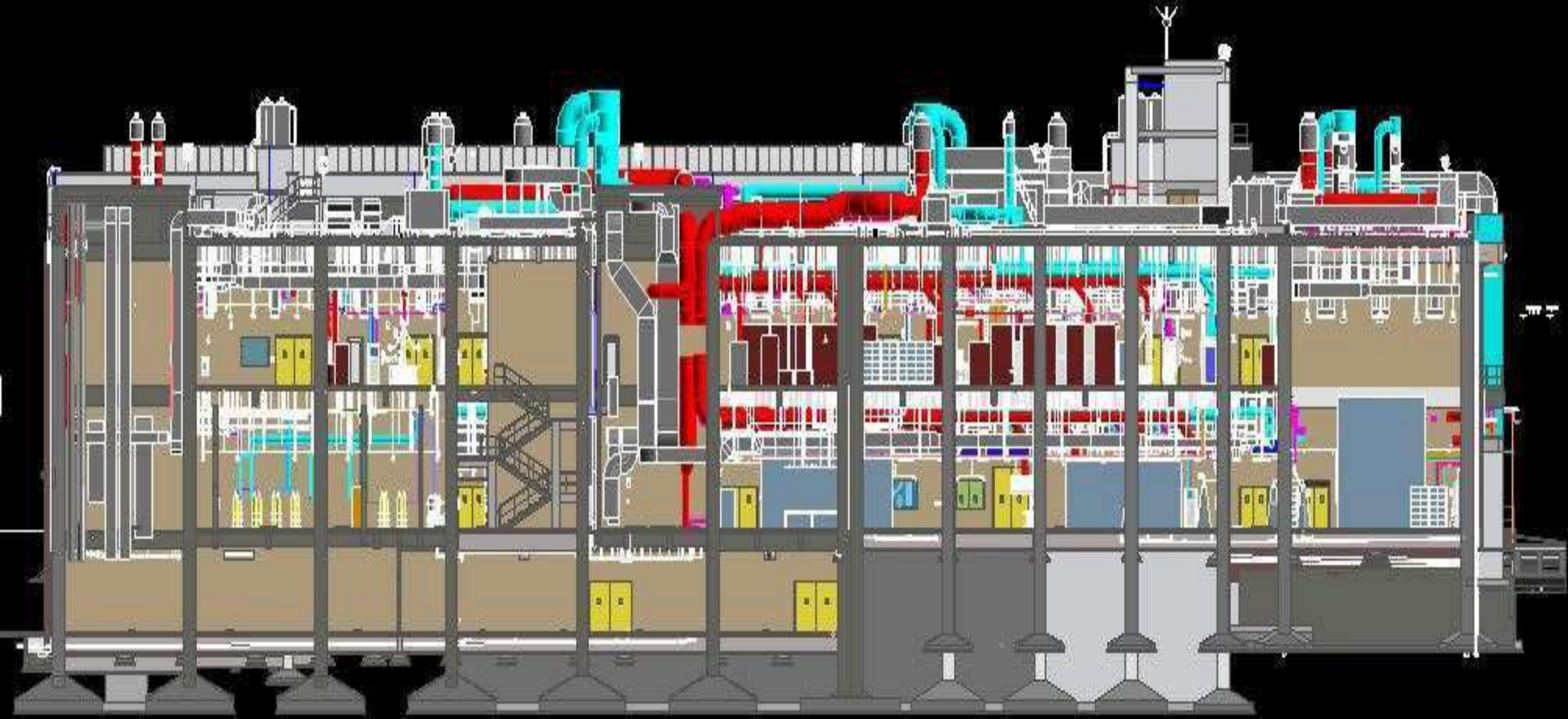
**SMART R&D
INFRASTRUCTURE**

KEWAUNEE **IOT
SOLUTIONS**

BIM SCHEDULING

BUILDING INFORMATION MODELLING

an intelligent 3D model-based collaborative project



VIRTUAL REALITY AUGMENTED REALITY

It looks real,
because it feels real

IMMERSIVE
VIRTUAL REALITY



*Kewaunee Offers VR , AR & MR user experience for
real-time interpretation of proposed designs*

VR Benefits

enriching new discovery Worldwide...

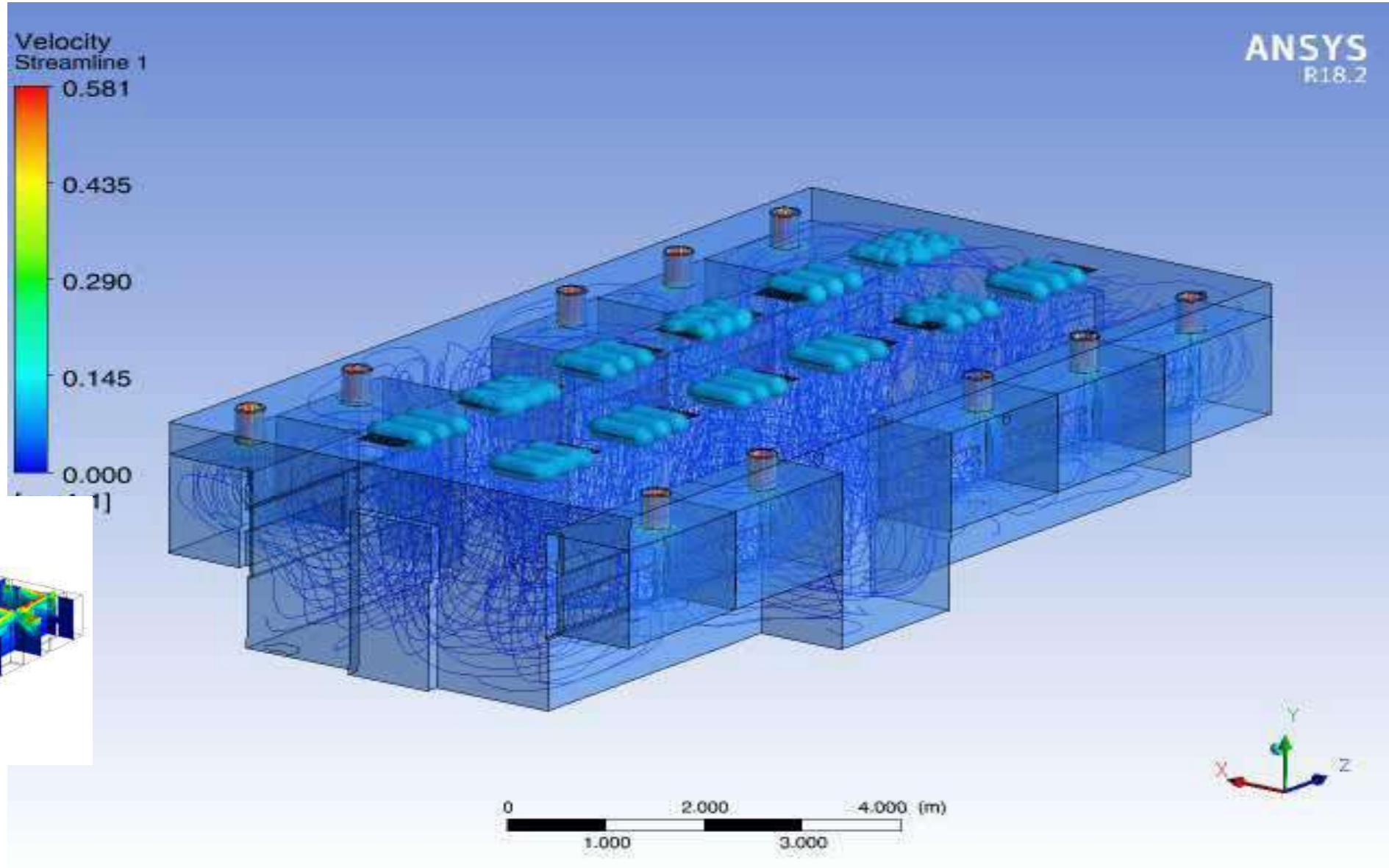
- 01 Experience**
A complete immersive experience , taking to a whole new level.
- 02 Real Life Simulations**
Customers can place, open or change colors of furniture and even walk through their own virtual lab.
- 03 Creative Lab designing**
Customer can design their own virtual lab in real-time and get a real feel of it.



Technology Driven Solutions

CFD Computation Fluid Dynamics

CFD is used for analysis and design optimization of a Lab HVAC system.





IoT Solutions

Kewaunee Green Guardian



KEWAUNEE GREEN GUARDIAN

for a responsible carbon foot print..



Kewaunee Green Guardian was developed as one of the enablers for Kewaunee 4.0 deployment in Laboratory.

It can link fumehoods and multiple control system and real time performance of Lab Infrastructure parameters can be monitored 24/7 and reports can be generated.

FEATURES

Fumehood Safety Performance:

- Face Velocity monitor and record.
- Alarm Status – display and record.
- Graphical report.

Laboratory Differential Pressure:

- Lab Differential Pressure monitor and record
- Alarm Status – display and record.
- Graphical reports.

Exhaust Differential Pressure:

- Exhaust Duct Differential Pressure monitor and record
- Alarm Status – display and record.
- Graphical reports.

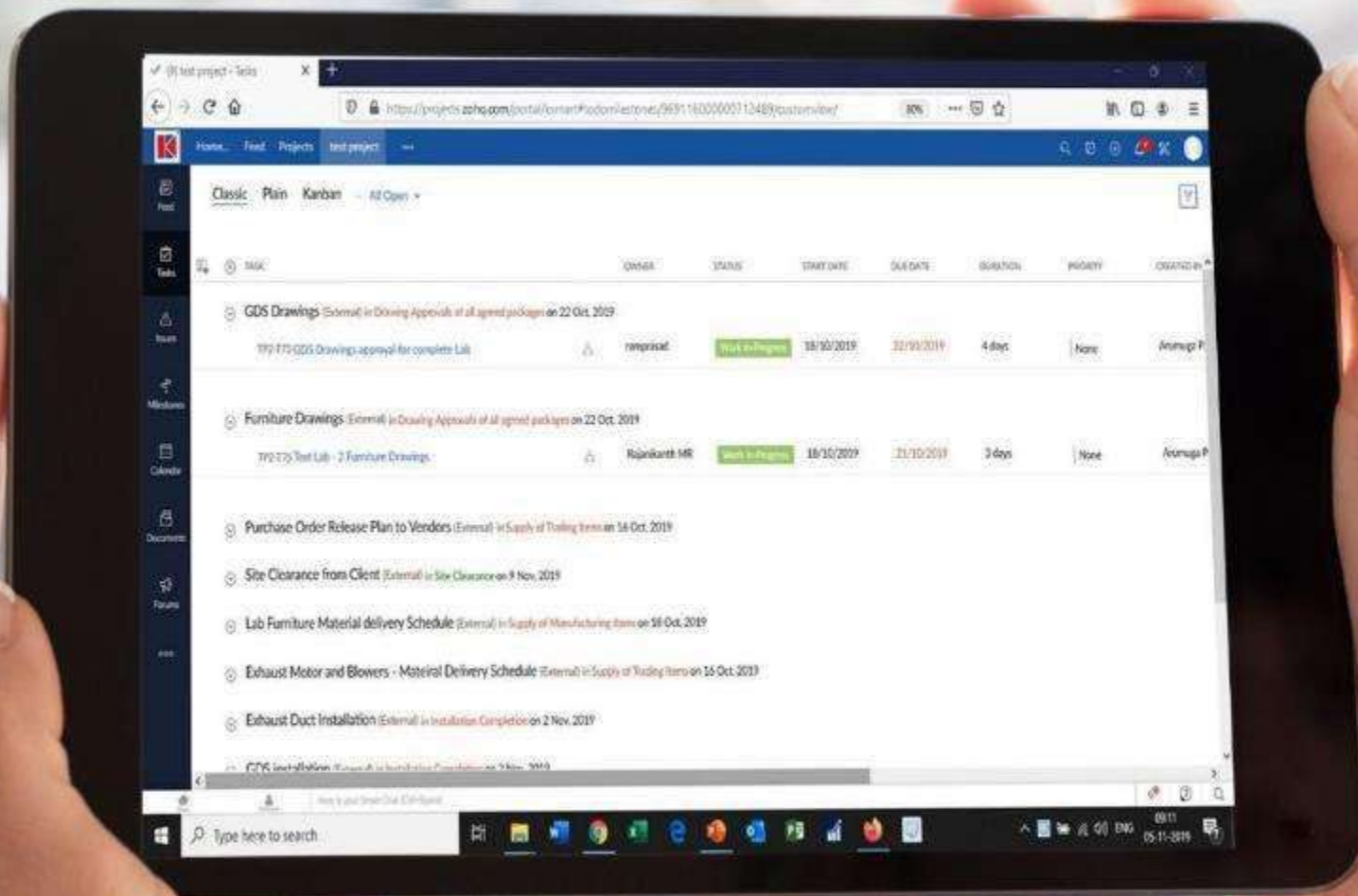
Exhaust Blower:

- Motor Power, frequency, output voltage, output current, torque, display temperature of IGBT, power and DC bus voltage.
- Remote monitoring and control of the laboratory exhaust blowers.
- Adjust Motor frequency.
- Start/Stop and control direction of Blower incase of emergencies.
- Auto sleep mode enabling the energy saving during night and when lab not used

Energy management:

- Energy consumption data of Blower
- Displays Power factor, line to line voltage, current, voltage-ampere, Wh., Watts, and frequency
- Graphical representation of Energy consumption for the day, month, and year.

Real Time Project Management



K-Smart

Industry 4.0 IoT Solutions

Lab Infrastructure



STRATEGIC ALLIANCE



"This alliance brings together two industry leaders to provide an unparalleled offering to customers who are demanding better performance and insights from their laboratories", Kewaunee CEO Tom Hull

Smart Facilities | Enhancing labs with digitalization

“ Our vision is to be an enabler for our customer to build Smart and Sustainable Laboratory spaces with Valuable Intelligence ”

Single lab to entire facility transformation

Smart Labs | Industry 4.0

From Preventive to Predictive maintenance
21CFR Part 11 Compliance
Single window for Laboratory Automation
Real time Data | Remote Everything



Asset Performance Management

The most comprehensive solution for a maximum economic return of your assets

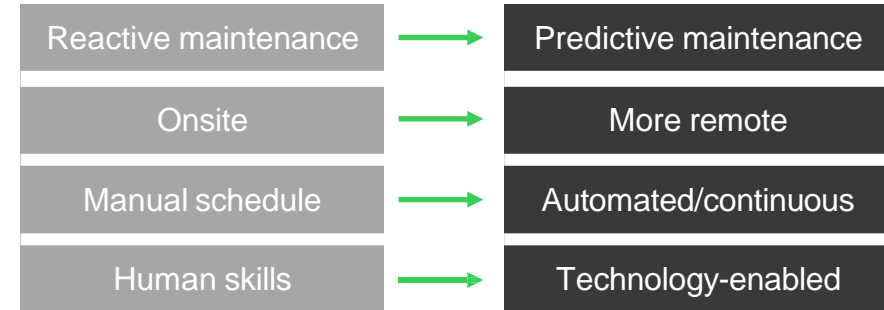
Environmental Control

Make sure your production environment comply with requirements and regulations

Building Management

Provide the best conditions for your manufacturing operations

Addressing key pain points



Get the best from digital transformation



Improve reliability

Secure your labs environment and data to mitigate risks and increase business uptime



Simplify Compliance

Ease adherence to regulatory requirements and good practices



Increased efficiency

Automated alerts mitigate risk, minimize downtime & improve flexibility



Protect Environment

Meet your sustainability goals for a better future for all

Command Centre program

Command Centre setup shall have

- 6 nos * 55" Thin Bezel Video wall (3.5 mm bezel-to-bezel) with 24x7 operation support in 3 X 3 matrix
- Video wall processor
- Core i7 with Express9 + 600W ATX + 8GB RAM 4 Channel Display port/DVI graphic card 4 Channel HD
- Capture card with HDMI Splitter cables
- Wall Management software

Command personnel shall be managed and provide 24*7 service

- Operation Manager
- Supervisor
- Operation engineer



Visualization reference only

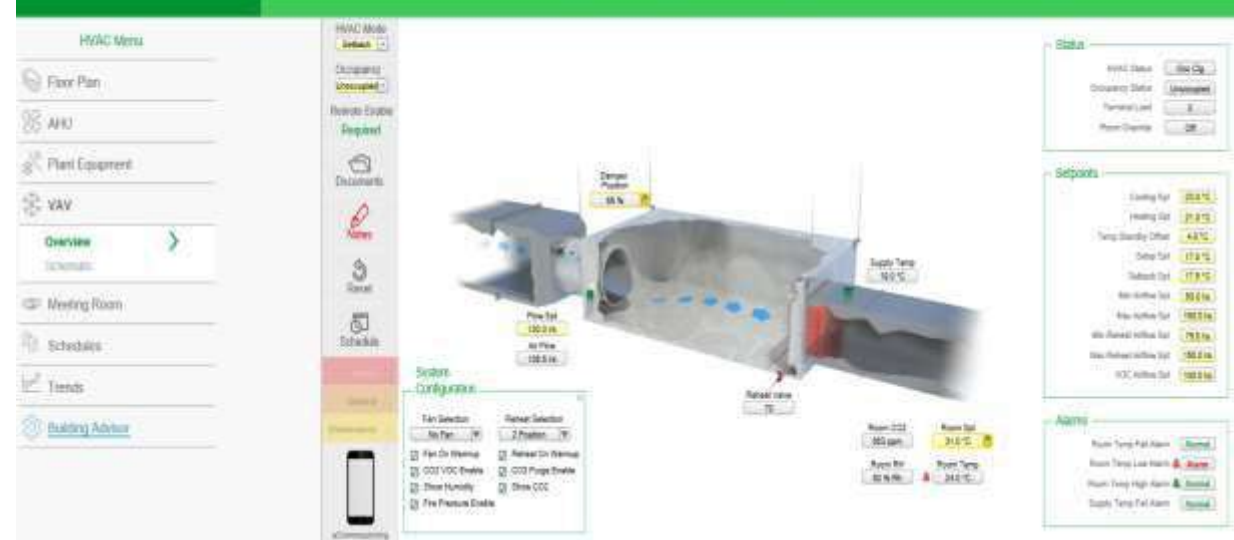
Command Centre program

Command Centre level

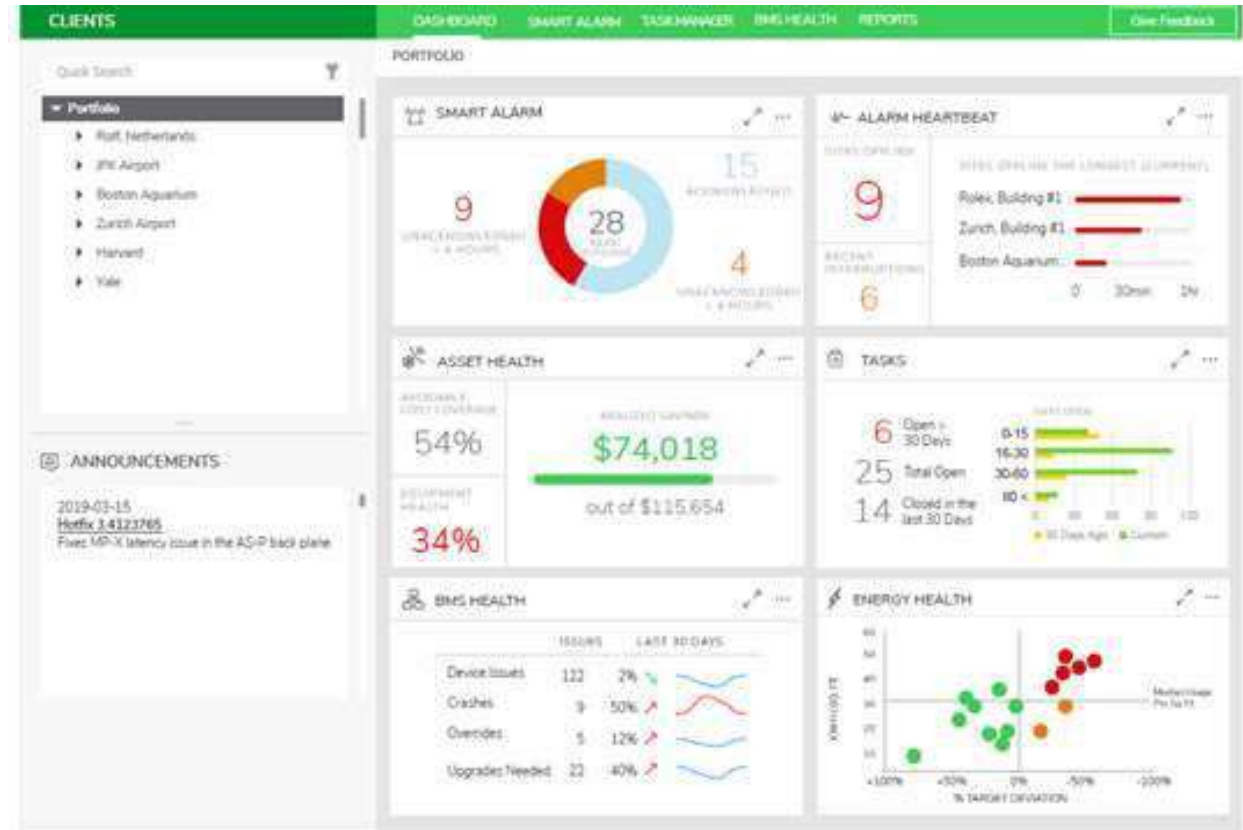
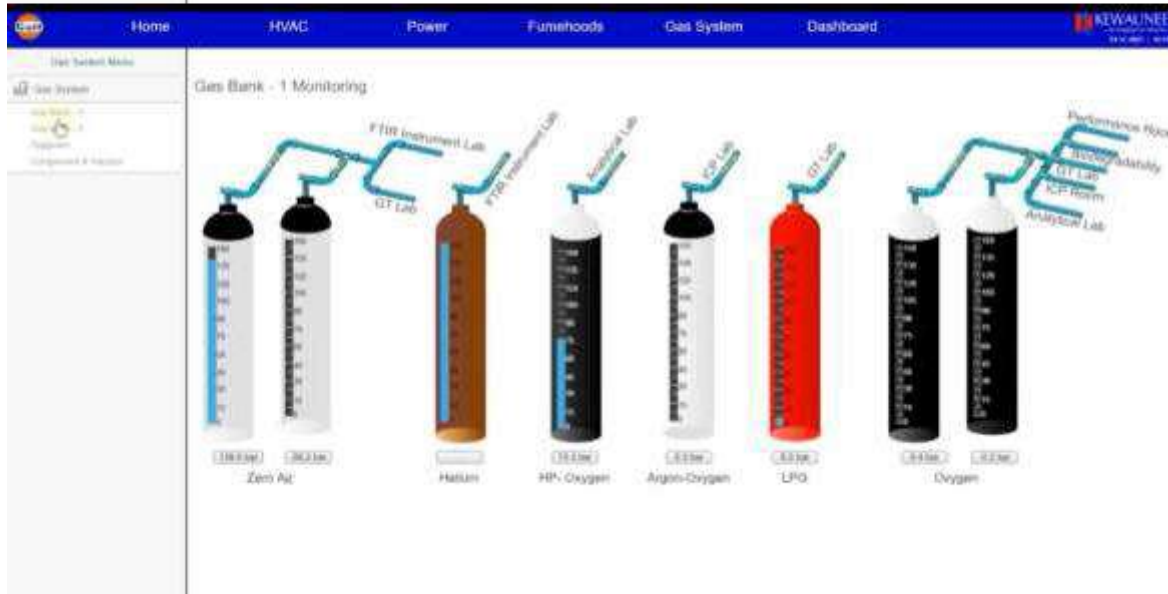
- Performance KPIs visualization
- Bench marking of each facilities
- Manage Facility level SOPs centrally
- Alert management by Command Centre personnel for all facilities

Facility level visualization & management at central level

- Energy Management
- HVAC Chiller Plant Management
- Data Centre management
- AHU/ EC Fan Management
- VRF Operation Management
- Lighting Management system
- Water Management system
- Fire Safety System
- Manage Reporting



Customized reports and Dashboards



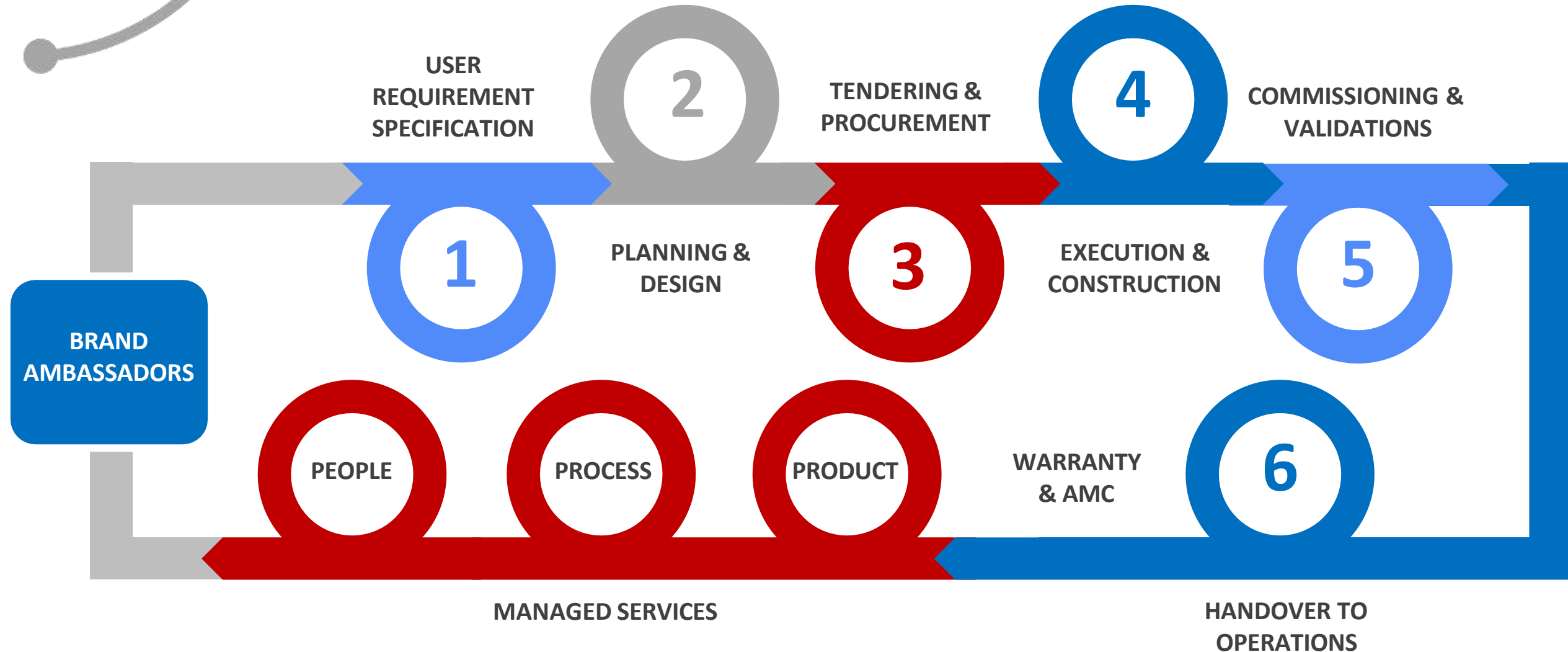


KEWAUNEE

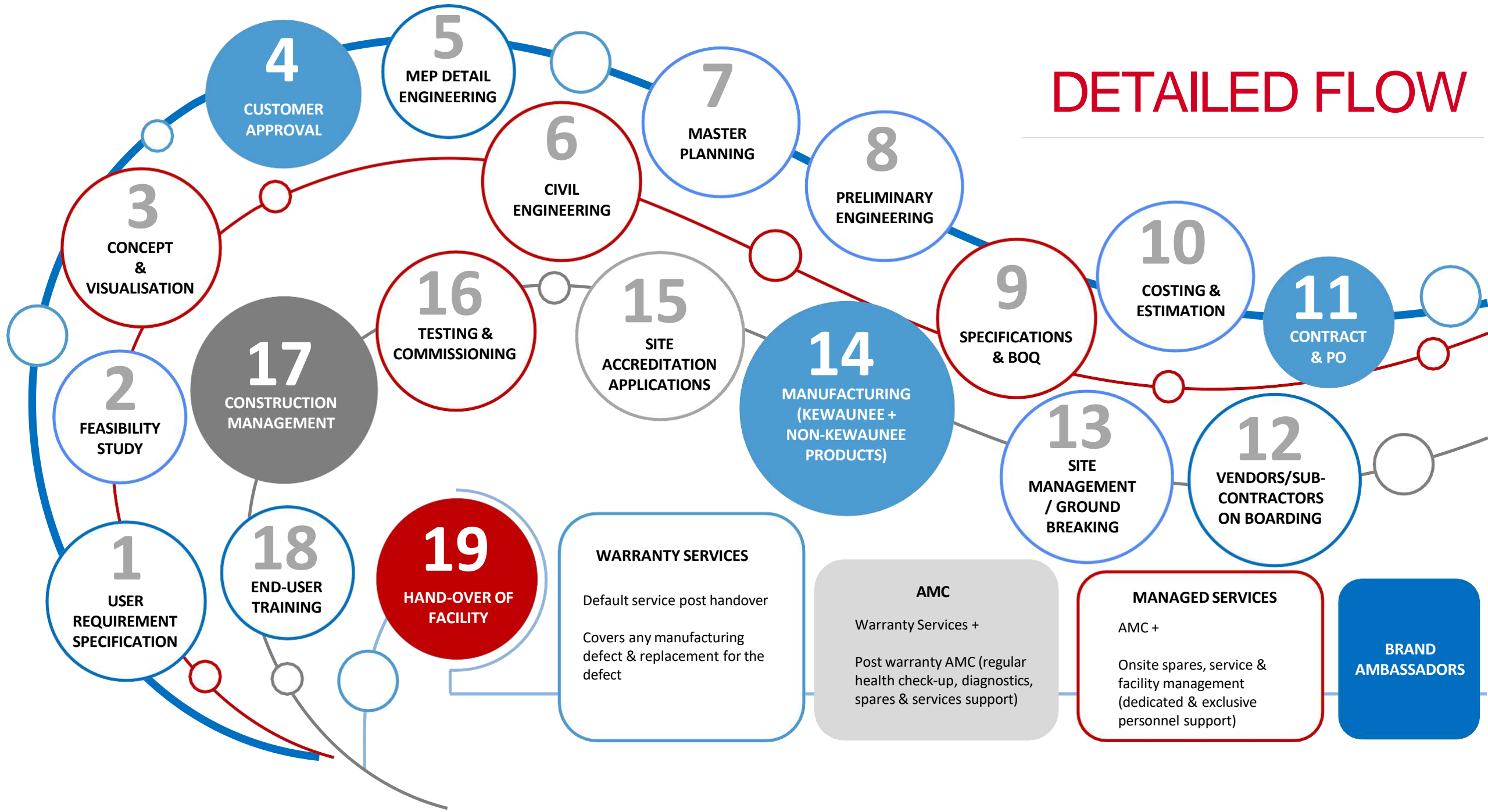
OUR PROCESS



PROVEN PATH TO A SUCCESSFUL LAB PROJECT



DETAILED FLOW



CUSTOMER PROJECT CHALLENGES

DESIGN & ENGG.	Inadequate design
	Incomplete or changing URS
	Lack of clarity on specifications – Wrong estimation
PROCUREMENT	Incomplete GFC's before procurement & construction
	Insufficient stakeholder engagement
	Commercial Disputes
	Wrong vendor selection
CONSTRUCTION	Long-lead item delivery
	Poor site supervision
	Poor project control
	Changes in project execution
	Late delivery of onsite construction materials
	Poor quality of construction materials
	Redo of snag lists
	Inadequate or inefficient equipment or machinery
	Sub-contractor's poor financial & execution capability
	Skilled workforce
	Frequent changes in workforce
	Accidents or incidents or safety non-compliances
	Bureaucratic processes



DESIGN & BUILD SEQUENCE



PHASE	PHASE 1 CONCEPTUAL	PHASE 2 PRELIMINARY ENGINEERING	PHASE 3 DETAILED DESIGN	PHASE 4 CONSTRUCTION	PHASE 5 COMMISSIONING, QUALIFICATION AND VALIDATION	PHASE 6 CLOSEOUT
Objective	Select best of identified project approaches, analyze concept(s) and prepare preliminary Cost Estimate, to confirm project viability.	Finalize technology and project objectives, and develop engineering, pricing and Project Execution Plan to support a Budget Cost Estimate and funding request.	Manage, coordinate and perform design activities necessary for construction and start-up of project. Complete procurement activities necessary for economic, schedule or detail design reasons	Mobilize and manage the construction forces and perform other activities including procurement necessary to construct the facility in accordance with the construction documents.	Perform commissioning and qualification activities required to achieve and demonstrate design performance levels	Perform contractual, archival and Kewaunee required activities to close the project in an orderly fashion.
KEY ACTIVITIES	<ol style="list-style-type: none"> 1. Align team to project objectives 2. Confirm site selection and complete initial labor and contractor survey. 3. Confirm preferred concepts, design basis, programming, scope. 4. Develop concepts into preliminary scope documents. 5. Prepare process drawings & simulation. 6. Identify regulatory and permitting requirements, if any.. 7. Initiate environmental impact assessment. 8. Inquire for major equipment as required. 9. Conduct reviews for safety, DQ, constructability and compliance 10. Develop Project Execution Plan. 11. Initiate Value Engineering. 12. Initiate cost trending 	<ol style="list-style-type: none"> 1. Align team to project objectives. 2. Update execution plan and labor/contractor survey. 3. Translate project concept into preliminary engineering and design documents to support Preliminary Estimate 4. Conduct design reviews for constructability, cGLP/ cGMP compliance, safety, maintainability and operability. 5. Complete commissioning and qualification plans. 6. Finalize purchase order and contract terms and conditions. 7. Inquire (and procure) critical and long lead equipment/contracts. 8. Prepare applications for necessary permits/licenses. 9. Continue Value Engineering. 10. Continue cost trending. 	<ol style="list-style-type: none"> 1. Align team to project objectives 2. Initiate change management 3. Procure equipment and materials 4. Develop and issue construction documents 5. Coordinate internal and external interfaces 6. Conduct design reviews: constructability, cGLP/ cGMP compliance, DQ, safety, maintainability, operability, etc. 7. Obtain regulatory authority approval 8. Perform FAT's 	<ol style="list-style-type: none"> 1. Align team to project objectives. 2. Procure equipment materials and contract construction services. 3. Develop detailed, integrated project schedule. 4. Manage site safety program. 5. Review submittals. 6. Coordinate site activities. 7. Manage QA/QC program. 8. Manage labor relations program. 9. Construct facilities in accordance with contract requirements. 10. Prepare and start to execute Installation Qualification protocols. 11. Continue change management. 12. Internal fit-up/occupancy 13. Achieve mechanical completion and turnover of systems 	<ol style="list-style-type: none"> 1. Align team to project objectives 2. Coordinate inspections by Customer authorities 3. Plan sequential commissioning, qualification and validation of completed facilities in concert with client and other involved parties 4. Prepare commissioning, and IQ/OQ protocols. 5. Perform SAT's and commissioning. 6. Execute OQ protocols. 7. Support Performance Qualification 8. Manage site safety program 9. End Userss training. 10. Record changes to construction documents, 11. Continue change management, if any.. 	<ol style="list-style-type: none"> 1. Conduct Lessons Learned sessions and compile for total project. 2. Close purchase order and contract accounts. 3. Assemble and archive project files Return all client assets. 4. Resolve any claims or disputes. 5. Resolve any warranty issues. 6. Obtain final acceptance certificate and final payment 7. Prepare project benchmarking data and feed back into system. (Internal) 8. Prepare final cost accounting.

DESIGN & BUILD SEQUENCE



PHASE	PHASE 1 CONCEPTUAL	PHASE 2 PRELIMINARY ENGINEERING	PHASE 3 DETAILED DESIGN	PHASE 4 CONSTRUCTION	PHASE 5 COMMISSIONING, QUALIFICATION AND VALIDATION	PHASE 6 CLOSEOUT
<p style="text-align: center;">KEY DELIVERABLES</p>	<ol style="list-style-type: none"> 1. Updated Project Objectives. 2. Project Execution Plan. 3. Project Procedures. 4. Outline Design Basis. 5. cGLP/ cGMP Design Brief and DQ Report 1 6. Design Safety & Environmental Plan 7. Site Master Plan; Building Plan/Elevs; Equipment GAs; Process Timeline, Schematic, Block Flow Diagrams (BFD), Process Flow Diagram (PFD) Process & Instrumentation Diagram (P&ID or P&I), Flow & Instrumentation Diagram (F&ID or FID), Equipment List, major equipment Data Sheets, HVAC BFDs and Area Classification Dwg; Generic Room Data Sheets; People/Material Flow Diagram; Automation Vision and Strategy 8. Programming Report 9. Control Systems Philosophy 10. Utility & infrastructure requirements 11. Preliminary Construction Strategy 12. Project Schedule 13. Preliminary Cost Estimate 14. Cash Flow Projection 15. Conceptual Phase Report 16. Recommendations for path forward 	<ol style="list-style-type: none"> 1. Updated Project Objectives. 2. Updated Project Execution Plan. 3. Project Procedures. 4. Completed Design Basis. 5. Site Plan, Process and Utility PFDs, P&IDs, Equipment List, Data sheets, Specs, Descriptions; Building/ Lab Plans, Sections and Elevations; Equipment Arrangements; People/Material Flow Diagrams; Room Schedule; HVAC BFDs, AF&IDs and Classification; Elec. Single Lines and Area Classification; Validation Master Plan, System list and boundaries and package requirements 6. Control System URS, Automation Project and Quality Plan & System Architecture. 7. Requests for Quotations; and Contracting/Bid Package Strategy 8. Regulatory/Permitting Packages. 9. Project Schedule, Preliminary Startup Sequence; Commissioning and Qualification Plans 10. Updated Utility and Infrastructure Requirements 11. Budget Cost Estimate w/Cash Flow 12. Preliminary Engineering Report 	<ol style="list-style-type: none"> 1. Updated Project Objectives 2. Updated Project Execution Plan 3. Updated Project Procedures 4. Purchase Order documentation 5. Construction Documents 6. Automation Functional Specifications and Software 7. Project Schedule 8. Subcontractors & Vendor Data Books 10. Change control documents 	<ol style="list-style-type: none"> 1. Procurement/contract documents 2. Updated Project Execution Plan 3. Updated Project Procedures 4. Construction Permits 5. Safety Program and documentation 6. Construction quality documents 7. Change control documents 8. Spare/change parts 9. Construction turnover packages 10. Mechanically complete facility 	<ol style="list-style-type: none"> 1. Start-up Schedule 2. Commissioning/IQ/OQ/PQ Plans and Procedures 3. Record documents. 4. Change Control documentation 5. Executed IQ/OQ documents 	<ol style="list-style-type: none"> 1. Close Out Plan 2. Close Out Report 3. Project Completion Report 4. Lessons Learned 5. Warranty File 6. Archive Log 7. Final acceptance documents 8. Benchmarking data

SOLUTIONS Offerings



S/N	Topics	Packages	Lab Furniture & Fumehood Projects	Lab-Internal Fitout Projects	Brown field Projects	Green field Projects
1	Planning & Engineering Services	Package-1	Lab furniture planning & engineering.	Space planning along with bench/ floor mounted equipments & basic with MEP engineering upto battery limits defined.	Entire building planning & full fledge Architecture & MEP engineering for entire project	Master plan & Architecture Engineering-with the technological aspects and multi-disciplinary approach to planning, design, construction, and operation,
2	Civil Constructions Works	Package-2	NIL	NIL	Minor Civil works including water proofing, building Façade	Major Civil works including all buildings as shown in master plan, water proofing, building Façade
3	Internal & External Development Works	Package-3	NIL	NIL	External Developments –Roads, Compound Walls, Signages, Pavers etc	External Developments –Roads, Compound Walls, Signages, Pavers etc
		Package-4	NIL	Interiors -Modular partition systems, flooring, painting, ceiling any other basic woodworks	Interiors -Modular partition systems, flooring, painting, ceiling any other basic Woodwork	Interiors -Modular partition systems, flooring, painting, ceiling any other basic Woodwork
		Package-5	NIL	NIL	Landscape -both soft & hard Scape as per master plan	Landscape -both soft & hard Scape as per master plan
		Package-6	NIL	NIL	Passenger & Service Lifts System	Passenger & Service Lifts System
4	Laboratory Fume hoods & Lab Caseworks	Package-7	Fume hoods System & Accessories	Fume hoods System & Accessories	Fume hoods System & Accessories	Fume hoods System & Accessories
		Package-8	Laboratory Furniture System & Accessories	Laboratory Furniture System & Accessories	Laboratory Furniture System & Accessories	Laboratory Furniture System & Accessories
		Package-9	Fume hood Exhaust System & Accessories including Scrubber & Blower	Fume hood Exhaust System & Accessories including Scrubber & Blower	Fume hood Exhaust System & Accessories including Scrubber & Blower	Fume hood Exhaust System & Accessories including Scrubber, PP Blower
		Package-10	Fume hood VAV System & Accessories	Fume hood VAV System & Accessories	Fume hood VAV System & Accessories	Fume hood VAV System & Accessories

SOLUTIONS Offerings



S/N	Topics	Packages	Lab Furniture & Fumehood Projects	Lab-Internal Fitout Projects	Brown-Field Projects	Green Field Projects
5	MEP Services	Package-11	NIL	Gas Distribution System	Gas Distribution System	Gas Distribution System
		Package-12	NIL	PHE distribution upto battery limit defined	PHE distribution, Hydro-Pneumatic System	PHE distribution, Hydro-Pneumatic System
		Package-13	NIL	HVAC System (low side System) along with AHU's	HVAC System (High & low side System) along with VRF/ Air/Water cooled Chiller	HVAC System (High & low side System) along VRF/ Air/Water cooled Chiller
		Package-14	NIL	Electrical System (low side System) upto inside floor levels	Electrical System (both HT & LT)	Electrical System (both HT & LT)
		Package-15	NIL	NIL	Networking System -DATA and Voice System (Only Passive)	Networking System -DATA and Voice System (Only Passive)
		Package-16	NIL	NIL	IBMS-Integrated Building Management Systems	IBMS-Integrated Building Management Systems
6	Safety Systems	Package-17	NIL	Safety System Consisting of: FAS, PA, CCTV, Access Control upto inside floor levels	Safety System Consisting of: FAS, PA, CCTV, Access Control	Safety System Consisting of: FAS, PA, CCTV, Access Control
		Package-18	NIL	Gas Leak detection System	Gas Leak detection System	Gas Leak detection System
		Package-19	NIL	NIL	Fire Hydrant System	Fire Hydrant System
		Package-20	NIL	Gas Suppression System in Solvent Rooms.	Gas Suppression System in Solvent Rooms.	Gas Suppression System in Solvent Rooms.
		Package-21	NIL	NIL	Safety Signage -Internal & External	Safety Signage -Internal & External
7	Modular Furniture System	Package-22	NIL	NIL	Modular Furniture's for office & canteen, including Chairs & Sofas for reception & Admin	Modular Furniture's for office & canteen, including Chairs & Sofas for reception & Admin
8	Plant & Utilities for Laboratory usage	Package-23	NIL	NIL	Common Effluent Treatment Plant	Common Effluent Treatment Plant
		Package-24	NIL	NIL	Nitrogen Plant	Nitrogen Plant
		Package-25	NIL	NIL	Water Treatment Plant (RO) Plant System & Accessories	Water Treatment Plant (RO) Plant System & Accessories
		Package-26	NIL	NIL	Diesel Generator Sets with HSD yard	Diesel Generator Sets with HSD yard
		Package-27	NIL	NIL	Air Compressor & Vacuum Pump	Air Compressor & Vacuum Pump
		Package-28	NIL	NIL	Process Chiller Lab application	Process Chiller Lab application
		Package-29	NIL	NIL	Steam Boiler	Steam Boiler
9	Sustainable energy & Lead Certification	Package-30	NIL	NIL	Solar Panels	Solar Panels
		Package-31	NIL	NIL	IGBC - Green Interiors for Gold/ Platinum for the building	IGBC - Green Interiors for Gold/ Platinum for the campus
10	Digital Solutions (IOT)	Package-32	NIL	NIL	Kewaunee Green Guardian - IOT Based Laboratory Health Monitoring System	Kewaunee Green Guardian - IOT Based Laboratory Health Monitoring System



KEWAUNEE

OUR PRODUCTS



OUR PRODUCTS



Fume Hood



Local Ventilation



Bio-Safety cabinet



Vertical Laminar Flow



Safety Cabinet



Lab Furniture



Lab Worktops & Sinks



Safety Stations & Eyewash



Service Fittings & Fixtures



Lab Chairs & Stools

Fume Hoods

- Venturi port
- Custom enclosures
- Full access hoods
- Fume hood testing
- Detect air filtered fume hoods





KEWAUNEE



Stainless steel - Fume Hood & Furniture





KEVAUNEE



Extensive product portfolio

Flexible and Innovative Design

- **Research Collection:** Modular
- **Alpha:** Flexible workstation
- **Enterprise:** Adaptable workstation
- **Evolution:** Column-based systems

Sample Clinical Research Lab





Research Collection

SEFA 10 | Class 1



Research Collection

SEFA 10 | Class 1



KEWAUNEE



Alpha System

SEFA 10 | Class 4- Configuration 2

Alpha Cart

SEFA 10 | Class 8 – Configuration 1





Enterprise

SEFA 10 | Class 7- Configuration 4



Enterprise

SEFA 10 | Class 7- Configuration 4



Evolution System

SEFA 10 | Class 8 – Configuration 1



Evolution System

SEFA 10 | Class 8 – Configuration 2



KEWAUNEE

SIMILAR PROJECT CASE STUDY

Design - Build



Design & Build TURNKEY PROJECTS

TCG CREST

Research Institute for Sustainable Energy (RISE)

Turnkey : Kewaunee

Fit-Out Area : 8000 SQ. FT

Project Start : Jan' 2022

Closing Date : Mar' 2022

BRIEF:

- Imaging Club
- Wet Chemical Lab
- XPS Lab
- Fabrication Lab
- XRD Lab
- Instrument Lab





Door/Drawer/Shell – FLINT GREY



Door/Drawer/Shell – FLINT GREY

Turnkey : Kewaunee

Fit-Out Area : 2,52,625 SQ. FT

Project Start : Mar' 2014

Closing Date : Sep' 2015

BRIEF:

Total Land Area : 52 Acre
Total Lab-space : 2,52,625 Sq.ft
Scope: Lab Furnishing, Exhaust System, Gas Distribution System, Controls & Commissioning
Completion Date : April 2016

LAB FURNISHINGS:

Fume Hoods – 140 no's
Lab Furniture – 850 RM
Phenolic Worktops – 850 Sq.mts

EXHAUST SYTEMS:

Centrifugal Blowers – 44 no's
GI Ducting – 10000 Sq.mts
SS Ducting – 400 Sq.mts
Scrubber – 18 no's

Master Plan



RELIANCE TECHNOLOGY GROUP

R&D Centre at Reliance Corporate park, Ghansoli, Navi Mumbai, India

Design & Build : Kewaunee

Fit-Out Area : 2,00,000 SQ. FT

Project Start : Apr' 2012

Closing Date : Jul' 2013

LAB FURNISHINGS:

Fume Hoods – 235 no's

Lab Furniture – 2800 RM

Epoxy Resin Worktops – 28,220 Sq.ft

Glove Box – 33 no's

Laminar Air-Flow cabinet – 04 no's

EXHAUST SYTEMS:

Centrifugal Blowers – 35 no's

PP-FRP Ducting – 7500 Sq.mts

Scrubber – 18 no's



INDIA FOOD PARK (IFPPL)

TUMKUR, KARNATAKA, INDIA



Design & Build : Kewaunee

Fit-Out Area : 3,00,000 SQ. FT

Project Start : Dec' 2013

Closing Date : Sep' 2014

India Food Park is the largest food Park located in Tumkur Karnataka and has been developed as a Public Partnership (PP) by Future Group's Integrated Food park.

- **Scope: Design to Build (Green-field project)**
- 14 Blocks + Labs
- **Civil, Structural Warehouse, Rain Harvesting, R&D Labs, Entry Plaza**
- Area : **3 lakh Sq.ft**
- Project Completed in 32 Weeks

Inaugurated by Prime minister Shri Narendra Modi



PFIZER HEALTHCARE INDIA PVT LTD

IIT- MADRAS CHENNAI, TAMIL NADU, INDIA



Design & Build : Kewaunee

Fit-Out Area : 65,000 SQ. FT (8th & 9th Floor)

Project Start : 1st Jun 2021

Estimated Closing Date : 31st Dec, 2021

Scope Brief :

Major Civil Works,
Lab Interiors, Lab
Fume Hood , Lab
Furniture , Exhaust
System, Gas
Distribution System,
VAV System, HVAC
System, Electrical
Systems, ETP
System, Gas
Suppression System,
Data & Voice System,
Security System, Fire
Hydrant System,
Drain System,
Nitrogen plant, RO
Plant, BMS System,
Canteen Building Civil
& Interiors,
Landscaping



DAICEL CHIRAL TECHNOLOGIES INDIA PVT LTD

MALLAPUR, HYDERABAD, INDIA



Design & Build	: Kewaunee
Fit-Out Area	: 51,000 SQ. FT
Project Start	: 15 th June 2018
Closing Date	: 15 th Mar, 2019

Scope Brief :

Major Civil Works, Lab Interiors, Lab Fume Hood , Lab Furniture , Exhaust System, Gas Distribution System, VAV System, HVAC System, Electrical Systems, ETP System, Gas Suppression System, Data & Voice System, Security System, Fire Hydrant System, Drain System, Nitrogen plant, RO Plant, BMS System, Civil & Interiors, Landscaping, Building Facade



SOLARA ACTIVE PHARMA SCIENCES

BANGALORE, KARNATAKA, INDIA



Design & Build : Kewaunee

Fit-Out Area : 31,700 SQ. FT

Project Start : 15th Feb 2017

Closing Date : 13th Aug, 2017

Scope Brief :

Major Civil Works, Lab Interiors, Lab Fume Hood , Lab Furniture , Exhaust System, Gas Distribution System, VAV System, HVAC System, Electrical Systems, ETP System, Gas Suppression System, Data & Voice System, Security System, Fire Hydrant System, Drain System, Nitrogen plant, RO Plant, BMS System, Canteen Building Civil & Interiors, Landscaping



STELIS BIOPHARMA PVT. LTD.

BANGALORE, INDIA



Design & Build	: Kewaunee
Approx. Fit-Out Area	: 20,500 SQ. FT
Project Start	: 15 th Mar, 2021
Closing Date	: 13 th May, 2021

Scope Brief :

Lab Interiors, Lab Biosafety Cabinet, Lab Furniture , Exhaust System, Gas Distribution System, HVAC System, Electrical & UPS Systems, LAN System, Fire Hydrant System, Drain System, BMS System, EMS System

Fast track project completed in 60 days



The Russian Direct Investment Fund (RDIF, Russia's sovereign wealth fund), and Stelis Biopharma Pvt. Ltd., the biopharmaceutical division of Strides, a global pharmaceutical company headquartered in India, have partnered to produce and supply a minimum of 200 million doses of the Russian Sputnik V vaccine against coronavirus sufficient to vaccinate 100 million people

ADAMA INDIA PVT LTD

IKP, TURKAPALLY, TELANGANA, INDIA



Design & Build : Kewaunee

Fit-Out Area : 15,000 SQ. FT

Project Start : 10th Jan. 2020

Closing Date : 30th Oct. 2020

Scope Brief :

Lab Interiors, Lab Fume Hood , Lab Furniture , Exhaust System, Gas Distribution System, HVAC System, Electrical & UPS Systems, LAN System, Fire Hydrant System, Drain System



Design & Build : Kewaunee

Fit-Out Area : 1,10,000 SQ. FT

Project Start : Dec' 2020

Closing Date : 15th Nov 2021

Scope Brief :

Major Civil Works, Lab Interiors, Lab Biosafety Cabinet, Lab Furniture , Exhaust System, Gas Distribution System, HVAC System, Electrical & UPS Systems, LAN System, Fire Hydrant System, Drain System, BMS System, EMS System



ARAGEN LIFE SCIENCES (Formerly known as GVK Biosciences Pvt Ltd)

MALLAPUR , HYDERABAD , INDIA



Turnkey : Kewaunee

Fit-Out Area : 52,000 SQ. FT

Project Start : Mar' 2021

Closing Date : Jun' 2021

Scope Brief :

Lab Fume Hood (**240 Nos.**) , Lab Furniture , Exhaust System, Gas Distribution System, VAV System, Electrical Systems



SYNGENE S16 BLOCK

BANGALORE, KARNATAKA, INDIA

Turnkey : Kewaunee

Fit-Out Area : 40,000 SQ. FT

Project Start : Jan'2017

Closing Date : Jul' 2017

Scope Brief :

Lab Fume Hood (**150 Nos.**) , Lab Furniture , Exhaust System, Gas Distribution System, VAV System, HVAC System, Electrical Systems, Gas Suppression System, BMS, Data & Voice System, Security System, Fire Hydrant System, Drain System, CCTV, PAS, Clean Room Partition, Office Furniture



PERFECT DAY INDIA PVT LTD

BANGALORE, KARNATAKA, INDIA

Perfect Day.



Design & Build : Kewaunee

Approx. Fit-Out Area : 60,000 SQ. FT

Project Start : Feb' 2021

Closing Date : 15th Nov 2021

Scope Brief :

Major Civil Works, Lab Interiors, Fume Hood, Lab Biosafety Cabinet, Lab Furniture , Exhaust System, Gas Distribution System, HVAC System, Electrical & UPS Systems, LAN System, Fire Hydrant System, Drain System, BMS System, EMS System



EXPEC ADVANCED RESEARCH CENTER

DHAHRAN, KINGDOM OF SAUDI ARABIA

Turnkey : Kewaunee

Fit-Out Area : 300 Labs

Project Start : Oct' 2017

Closing Date : Sep' 2021

Scope Brief :

Fume Hood, Lab Furniture, Epoxy worktops, Gas Distribution system, Utility fixtures



ONGOING GREENFIELD (TURNKEY PROJECT)

LAURUS SYNTHESIS – R&D
Total Area: 5 Acres



Security Block

Admin Block

Warehouse

Pilot Plant

Utility

R&D Block

R&D Block

R&D Block

R&D Block





KEWAUNEE

REFERENCE LAB IMAGES



LAB CORRIDOR



SYNTHESIS LAB AREA



OFFICE AREA



ADAMA



MANAGER CABIN





CONFERENCE ROOM



ADAMA

CHILLER AREA



ELECTRICAL PANELS



EXHAUST SYSTEM





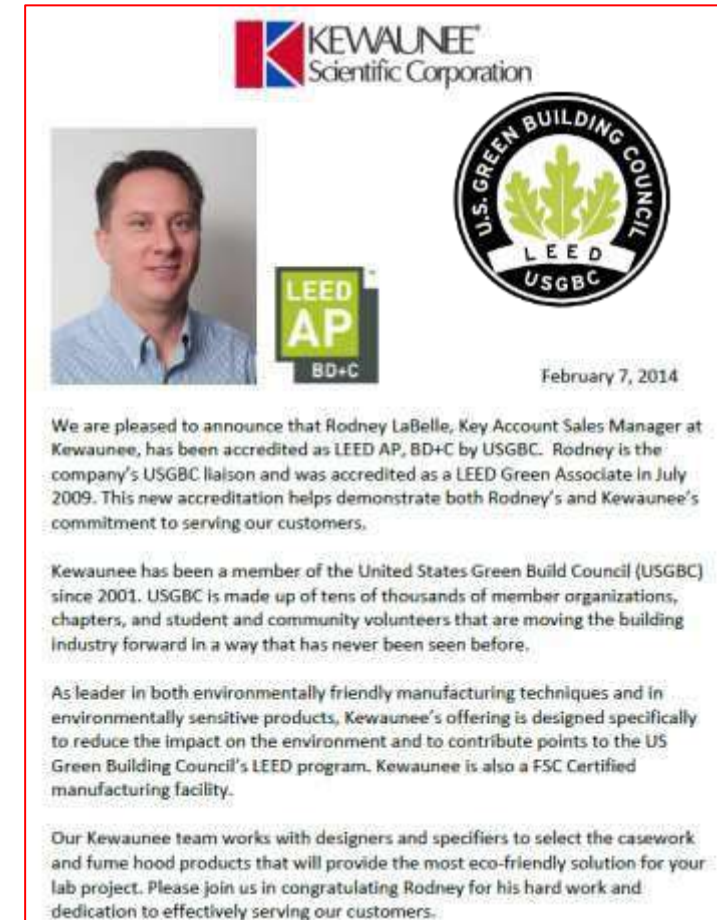
LEED & SUSTAINABLE
SOLUTIONS

CASE STUDY

INDIA REGION



ACCREDITED Kewaunee Team



GREEN BUILDING, LEED IGBC - PROJECTS



SOLARA ACTIVE PHARMA SCIENCES (SAPS)

Bangalore, Karnataka



Design & Build	Kewaunee
Approx. Fit-Out Area	20,500SF
Project Start	Feb 2017
Project Completion	August 17



DAICEL CHIRAL TECHNOLOGIES INDIA PVT LTD

IKP, Turkapally, Telangana



Design & Build	Kewaunee
Approx. Fit-Out Area	51,000SF
Project Start	Sept 2018
Project Completion	March 2019



ENVIROCARE LABS LTD

Thane, Maharashtra



Design & Build	Kewaunee
Approx. Fit-Out Area	29,000SF
Project Start	August 2019
Project Completion	Feb 2020



GREEN BUILDING, LEED IGBC - PROJECTS



HIMEDIA

MUMBAI, India

Targeting
IGBC Gold

Design & Build Kewaunee
Approx. Fit-Out Area 84,000SF
Project Start July 2020
Project Completion July 2021*



PERFECT DAY INDIA PVT LTD.

Bangalore, India

Targeting
IGBC Gold

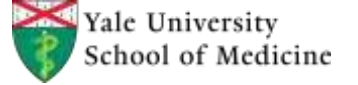
Design & Build Kewaunee
Approx. Fit-Out Area 60,000SF
Project Start Feb 2020
Project Completion July 2021*





CLIENT REFERENCES







THANK YOU

CONTACT

www.kewaunee.in

USA

Kewaunee Scientific Corporation
P.O.Box. 1842, Statesville,
North Carolina, 28687 – 1842,
USA

Phone: +1 (704) 873 – 7202
Fax: +1 (800) 932 – 3296
Mail: kscmarketing@kewaunee.com
Web: www.kewaunee.com

INDIA

Kewaunee Labway India Pvt Ltd
Corporate & Registered Office:
Survey No. 92/1A, 3rd Floor, BNR Towers,
HP Avenue, Konappana Agrahara, Begur Hobli,
Electronic City Phase 1, Bangalore – 560 100

Phone: +91 (80) 6192 0000
Mail: marketing@kewaunee.in
Web: www.kewaunee.in

SINGAPORE

Kewaunee Labway Asia Pte. Ltd,
194, Pandan Loop,
#06-22, Pantech Business Hub,
Singapore - 128383.

Phone: +(65) 67730288
Fax : + (65) 67732322

KINGDOM OF SAUDI ARABIA

Kewaunee Scientific Saudia Co.
Office 102, 1st Floor, Xenel Building
Prince Faisal Bin Fahad Street
Al Hizam Al Akhdar District Al Khobar,
Saudi Arabia - 34433.

Phone: +966 54 672 5147
Mail: abdulbari@kewaunee.in