



**Turnkey Solutions**

**Design Engineering Production**

**Assembly Service Validation**

A wide-angle photograph of a large, empty cleanroom. The room has a high ceiling with numerous square and circular recessed lights. The walls are white, and the floor is a smooth, light blue. Several glass doors are visible in the background, leading to other areas. The overall atmosphere is bright and sterile.

**CLEANROOMS**



Aastha is one of the leading **Turnkey Project Solution** Providers for **Pharmaceutical, Healthcare, Food, Herbal, Cosmetic, Veterinary, and Chemical Plants**. AASTHA India offers projects as per **WHO, USFDA, PICS, MHRA, TGA & GMP** regulations.



We approach every project from the clients viewpoint and deliver on time, on budget and to exceptional standards. We pride ourselves in being transparent and open with our clients. This builds a level of trust that sets us apart from the crowd, and is reinforced by repeat business levels of over 90%.



**GMP STANDARD**

Establishment Year	2004
Factory Location	Mahad, MH. INDIA
Factory Area	13842 sq. Mtrs.
Employees	200+
Corp Office	Mumbai, INDIA

Our projects are based on detailed drawings, controlled and validated design, care of details, respect of the production and installation time schedule. We provides complete Turnkey solutions – Engineering Support for designing, cost-effective solutions and On-site support during installation for your projects.



**A One Stop Solution towards the Successful Implementation of Any  
CLEANROOM  
Development Project from Concept to Completion**



## We Understand Your Needs for Cleanroom



### We Design

With an experience in architectural, & mechanical field, our engineers designed your cleanroom exactly to your needs with the International Standards to achieve the desired needs of cleanroom .



### Project Planning

Our Engineers & Designers , closely work with your Team to understand the needs at the earlier stage and thus by saving the potentials.

### Production

The High Quality of Manufactured products at our factory guarantees Quality , Functionality & Reliability.

### Installation

The secret behind the Successful Installation is Experienced Teams. Having installed over 100 + cleanrooms , we assure our cleanroom installation shall meet the all requirements,



## CLEAN ROOM VALIDATION



SOLUTIONS FOR CLEANROOM

### What is Cleanroom ?

A room in which concentration of airborne particles is controlled and which is constructed and used in a manner to minimize the introduction, generation and retention of particles and microbes inside the room and in which other relevant parameters, e.g. temperature, humidity and pressure are controlled as necessary



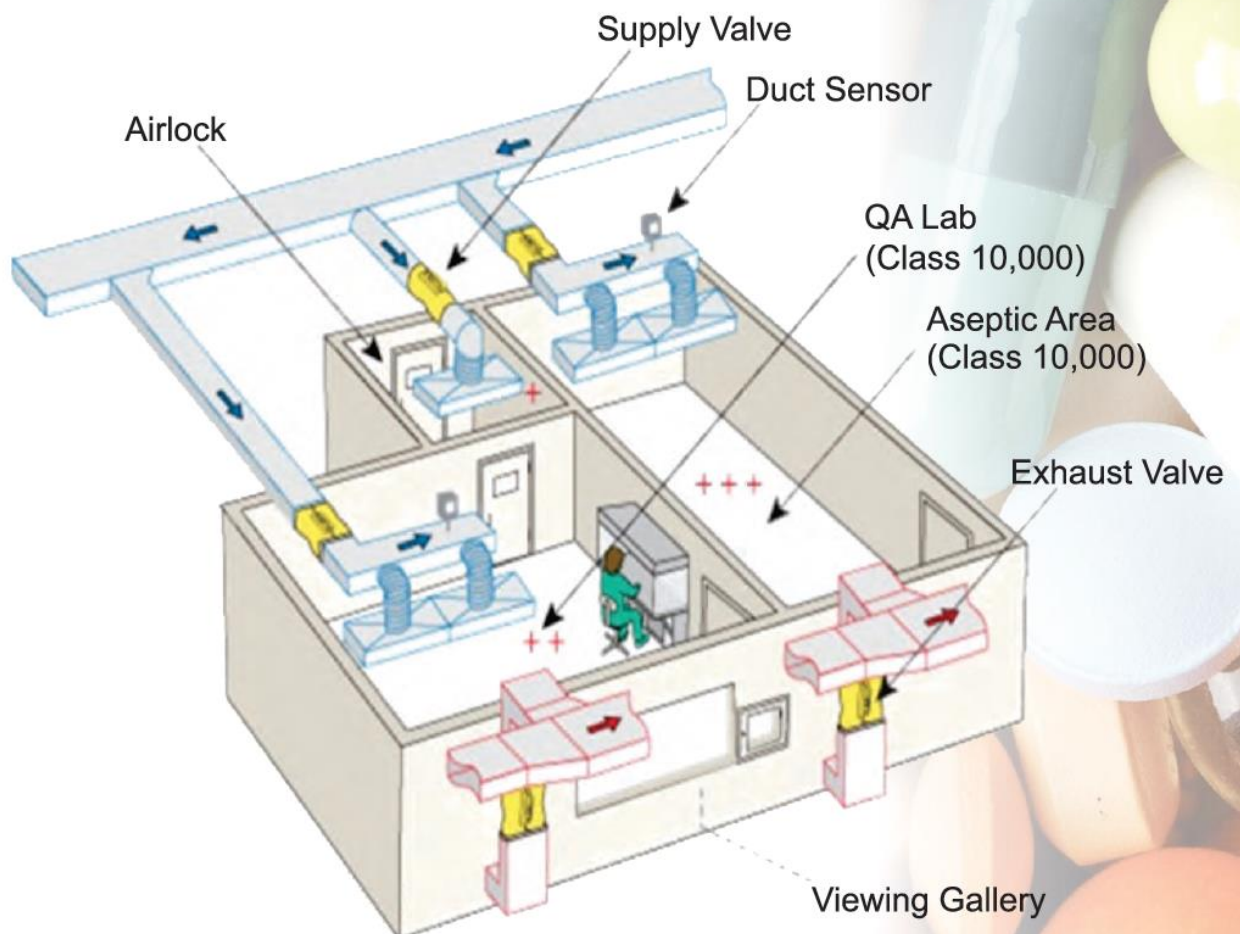
Cleanrooms are classified from ISO 1 to ISO 9. These standards are based on the number of particles allowed per unit volume of air within the space. The physical size of a particle is measured in a unit called as a micron ( $\mu\text{m}$ ).

To put the size of a micron into perspective; a human hair is approximately 75 microns thick. A typical room in a home would contain more than 10,00,000 particle of 0.5  $\mu\text{m}$  and above, this roughly equates to a class ISO 9 clean room.

Pressures must also be kept static and over the atmospheric pressure in order to prevent infiltration into the room. New air inputs must be balanced along with the release of air from the room to keep the pressure value maintained.

Clean rooms are used in many different industries in addition to Pharmaceutical, Healthcare, Food, Processing, including Cosmetic, FMCG, military, aerospace, and computer manufacturing.

# CLEANROOM





**Class 100** – The cleanest room on this list; this class is frequently used in labs and hospitals because it is designed to never permit over 100 particles (0.5 microns or bigger) per cubic foot of air.

**Features:**

- EU3/EU4 level filters
- EU9 pocket filters in at the entrance
- EU14 box filtering from the ceiling
- Air leaves the environment through wall grilles

**Class 100,000** – This class of clean rooms is designed to limit particulates to 100,000 and is popular in the medical and manufacturing industries.

**Features:**

- EU3/EU4 level filters
- EU8 pocket filters in at the entrance
- EU13 absolute filters in at exit
- Distribution of filters from the ceiling
- Air leaves through ceiling grilles
- Features finely permeable fabric channels

**Class 10,000** – This classification of clean room is the one mostly commonly used in the food industry and limits particles to 10,000.

**Features:**

- EU3/EU4 level filters
- EU8 pocket filters in at the entrance
- EU14 box filtering from the ceiling
- Air leaves the environment through wall grilles

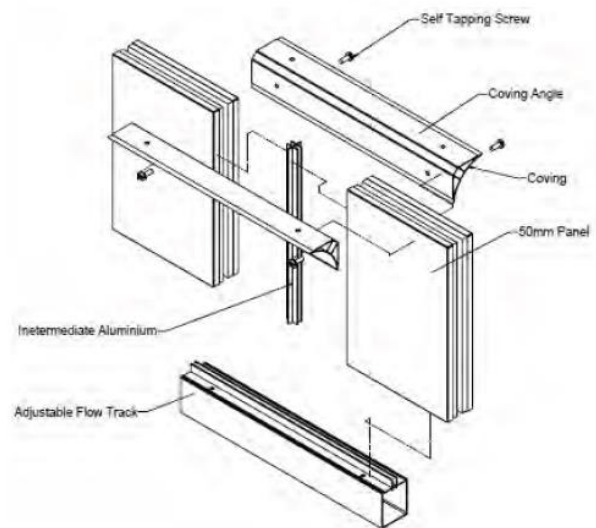
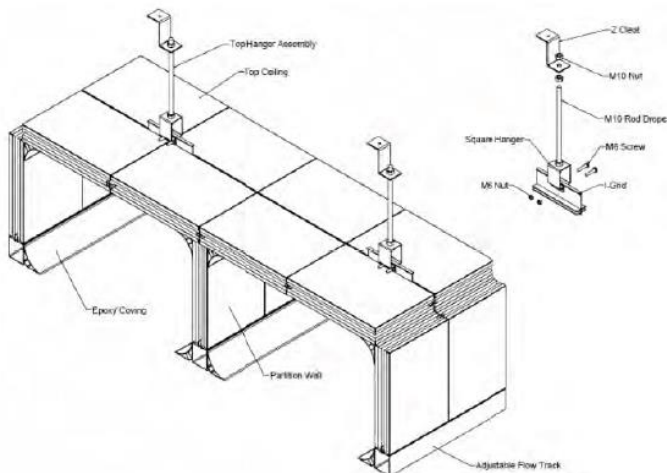
# CLEANROOM



## Modular Cleanroom – Wall Partitions & Ceiling Panels

We are specialized in designing, manufacturing and supplying modular panels to construct “Walls and Ceiling “. Aastha offers various type of wall panels which incorporate with the ceiling system. We are also versatile and are flexible in design.

AASTHA cleanroom Partition is designed according to GMP requirements and to provide a clean and reliable environment for either new or existing facilities. We provide excellent flush surface to prevent possibility of contamination, microbial and fungal growth. The high quality components allow a high performance cleanroom to be constructed.





## Modular Cleanroom – Wall Partitions & Ceiling Panels

<b>Panel Thickness</b>	50mm, 80mm, 100mm – Standard 30mm, 150mm, 200mm – Non Standard
<b>Infill Material</b>	Anti-combustion PUF , Rockwool
<b>MOC</b>	<ul style="list-style-type: none"> <li>• Pre Painted Galvanized Sheets (PPGI)</li> <li>• Powder Coated Galvanized Sheet (PCGI)</li> <li>• Stainless Steel (S.S.304 )</li> <li>• High Pressure Laminate (HPL)</li> </ul>



### Advantages

- Excellent Insulation
- Quicker to manufacture, install and commission
- Panels can be made up to 6 meters in length
- Easy to incorporate any design changes during project execution
- Integration of Utilities is very convenient and easy.



### High Pressure Laminate Panels & Doors

HPL is considered to be one of the most durable decorative surface materials and is available with special performance properties including chemical, fire and water resistance. HPL panels are manufactured on CNC Machinery by our skilled professional team.



### Advantages of HPL Panel-

- Available in different colours.
- Anti Fungal/ Anti Bacterial
- Easy to Clean
- Long Lasting
- Easy to Relocate
- Resistant to Scratch
- Ability to carry concealed services and Return air ducts/risers



### Modular Cleanroom Doors

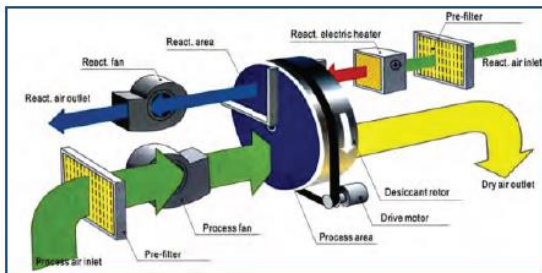
Cleanroom doors facilitate the highest standard of hygiene for clean room environment in industries like pharmaceutical, biotechnology, Micro-electronics, Semi-conductor industry, hospitals, Food and Dairy Industry. These fully flush doors are produced in Galvanized steel, Aluminium and Stainless Steel with wide range of door hardware in stainless steel, aluminum material.



CLEANROOM

Clean environments free of pollutants and other airborne particulate are crucial to a number of industries, which is why a cleanroom is used. By measuring atmospheric contaminants, The cleanrooms are able to provide a set environment in which airborne particles are kept to a certain PPC (particles per cubic meter) reliably and within the ISO grade of that cleanroom.

HVAC systems are to delivery air change rates that are far in excess of normal atmospheric conditions & to ensure a low particle count for applications such as high quality product manufacture or scientific and medical research.



## Dehumidification

Aastha has a wide range of industrial dehumidifiers catering to the varied application needs across diversified industries. The dehumidifiers are reliable, energy-efficient and cost effective.

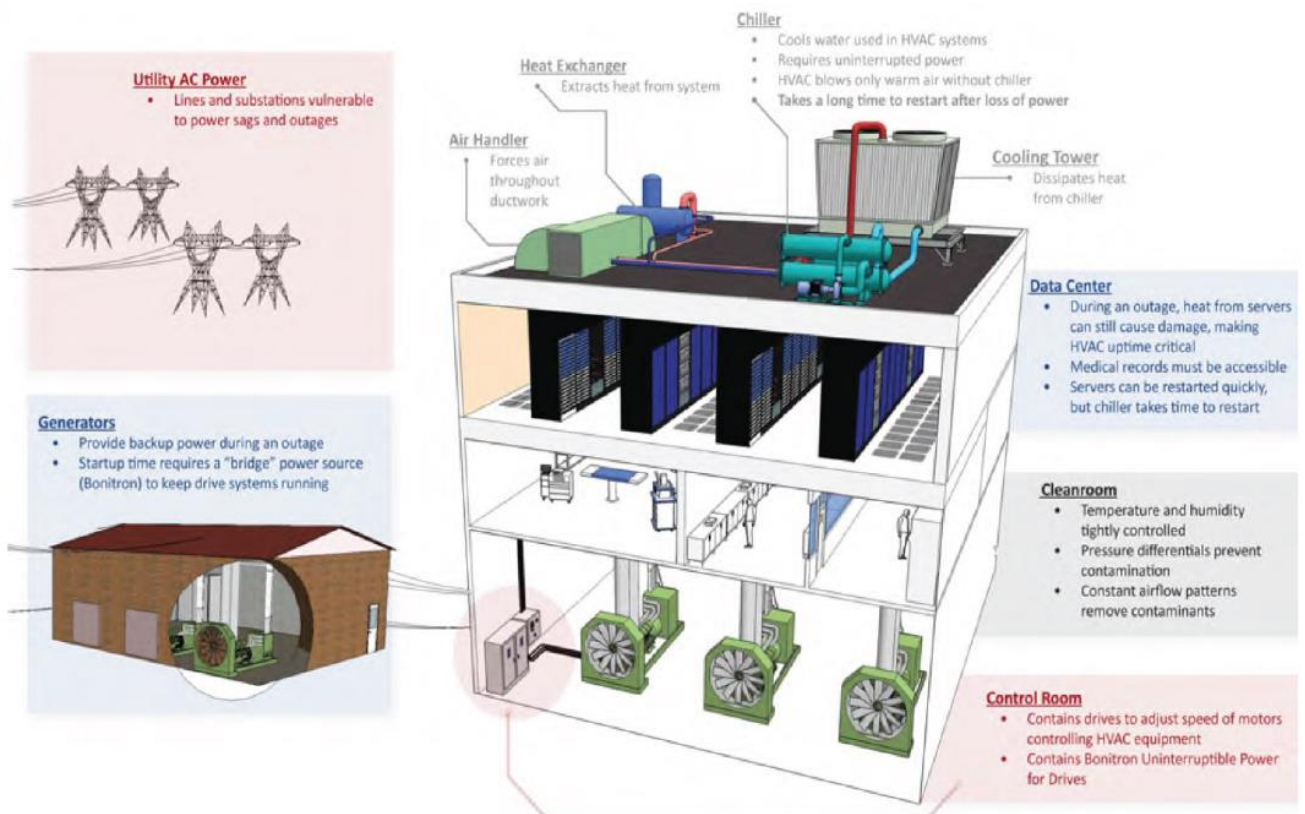
Dehumidifiers are designed to meet the most stringent moisture/humidity control needs and are available from compact models to very complex engineered systems.

We can easily maintain RH up to 25 to 30% with the help of Dehumidifier..

# HVAC

## Working Principle

- Maintains and Provides Cool, Dry, Sterile air
- Uniform Drying time
- Reduces drying time from several days to few hours
- Maximise Production time by eliminating costly down time due to poor air quality
- Maintains a clean controlled temperature and humidity energy efficient reduces utility consumptions





## Air Handling Unit

An Air Handling Unit (often abbreviated to AHU), is a device used to condition and circulate air as part of a heating, ventilation, and cooling (HVAC) system. An AHU is usually a large double skin metal box containing a blower, heating and cooling elements filter(s) racks or chambers, sound attenuators, and dampers. AHU will be connected to a ductwork ventilation system that distributes the conditioned air through the building and returns it to the AHU.



## Filtration

Clean rooms utilize high efficiency absolute (HEPA) filters with 99.97% filtration efficiency at 0.3 microns. HEPA stands for High Efficiency Particulate Air. The HEPA filters work on diffusion principle to remove particulate matter. The filters are preferably sited within the terminals of the ducted HVAC system, ensuring maximum cleanliness of air within the room.

## VRF / VRV

We offer a complete range of single-zone and multi-zone VRF systems to satisfy modern day design and construction challenges while still providing the occupants the highest level of personalized control and comfort.

With combination of single units ranging from 10 to 30 HP, maximum 120 HP can be achieved from a single system. VRF system enables users to reduce annual utility costs compared to traditional DX as well as Chiller Systems, while the operational modes can be adjusted to allow for seasonal requirements.



H V A C





## Utility Piping

Utility piping to ensure that your plant runs the way it's supposed to. In addition to all of our process system design, we also design and build complete utility systems to support your plant's overall functioning. We understand that the utility system is essential for plant operation, without these, the production line cannot function. Accordingly, we maintain expert engineers, construction professionals, and installers who are well versed in utility piping and utility systems, including all of the relevant codes and regulations.



1	Process & Instrumentation Diagram (P & ID )	16	Effluent Treatment Plant
2	Chilled Water system	17	Hot Water Generator
3	Chiller System	18	Multi Grade Filter
4	Compressed Air System	19	Air Receiver
5	Fire Hydrant System	20	Chimney
6	Water Treatment Systems	21	Water Tanks
7	Steam Boiler	22	Heat Pump
8	Pure Steam Generator	23	Vacuum Pump
9	Nitrogen Generator	24	Dust Collector
10	R.O Water Plan	25	Scrubber
11	Multicolumn Distillation Plant	26	Pumps
12	Pre-treatment Plant	27	Oil Tanks
13	Purified Water Plant	28	Cooling tower
14	Water Softener	29	Desiccant Air Dryer
15	Water for Injection	30	Refrigerant Air Dryer

## Electrical

Electrical system has been one of the core competences of AASTHA .In our turnkey solutions journey it has becomes an essential part of the scope of works due to its inter-dependency. Electrical systems shall be designed in such a way that the entire plant can be run uninterruptedly for round-the-clock operations of process machinery and utility equipment. The design process starts from identifying the power distribution requirements of the customer and charting a final power distribution schematic which once upon approval will be taken for detailed engineering to provide the desired turnkey solutions.





## Air Showers

Air showers are specialized anti-chambers through which personnel must pass before entering cleanrooms in order to avoid contamination. Decontamination is done by clearing off dust and dirt particles from bodies of clean room personnel to minimize contamination of equipment or products.



## Pass Thru System Static Pass Box & Dynamic Pass Box

It is mainly applied to the goods transfer between two classified zones, preventing the cross contamination due to air circulation. The possibility of contaminating the cleanroom can be minimized & the cleanliness of the cleanroom can be maintained.



- Stainless steel or Galvanized Powder Coated
- Mechanical or electronic interlocked doors, making sure the two doors can't be open at the same time, which in order to prevent crossventilation
- Efficiency: 99.99%
- Customized sizes,
- We can offer special requirement for the filters as per our clients

## De – Dusting tunnel

The De-dusting Tunnels, offered by us, are known for their excellent quality, efficient working, precise engineering and flawlessness. These De-dusting tunnels are efficient for proper removal of dust and dirt. Our De-dusting tunnels are hard and durable. De-dusting tunnel is a continuous motion machine particularly used to de-dust / clean the external surface of all incoming material like RM drums, SPM boxes, etc.



EQUIPMENTS

## Vertical Laminar Air Flow

VLAFs are used for work with low risk substances and materials, when protection of working material from environment is necessary or the item requires a sterile working zone. Vertical laminar air flow cabinet, filtered air blows on the work zone and leaves through the holes in the base. Vertical flow cabinet can provide greater operator protection.

Vertical Laminar Airflow Benches are designed to provide Class 100 workstations for creation of a bacterial dust free air space.



## Vertical Laminar Air Flow

Reverse Laminar Air Flow is ideal for Operator Protection, Product Protection and Environment Protection. Dust particles are being filtered and clean air stream is provided in the zone of exposed product and the operator breathing zone. The RLAF is designed to provide Class 100 working environment at rest with built in scavenging system to ensure product, operator & surrounding environment cleanliness.

Reverse Laminar Airflow Bench finds a major application in sampling and dispensing. Majorly used for mixed airflow stream to control the hazardous emission of dust powder during dispensing or sampling process.



## Bio Safety Cabinet

A Bio safety Cabinet (BSC) — also called a biological safety cabinet or microbiological safety cabinet — is an enclosed, ventilated laboratory workspace for safely working with materials contaminated with (or potentially contaminated with) pathogens requiring a defined bio safety level.



## Sterile Garment Storage Cabinet

Sterile Garment Storage Cabinet, is used for storage of clean apparel for Cleanrooms as these are equipped with HEPA filter and UV germicidal tube light. Therefore, these are safe and ensure that the garments completely free from bacterial contamination.



## Fire Fighting

We offer services in conception, design of fire alarm and fire fighting system as per the relevant international and domestic standards. Design of fire fighting systems like hydrant system, sprinkler systems. Fire alarm system inclusive of smoke detectors, beam detectors , fire alarm panels, sounder attenuators and the interconnecting cables.



## Laboratory Furniture

We offer cleanroom furniture , which are known for durable finish and low maintenance . We can further offer these in varied sizes as per the specific application requirements.



## Building Management System (BMS)

Building Management System (BMS) and environment monitoring systems play an essential role in enabling production with a clean room classification

The major advantage of having the BMS is that all these monitoring and controlling parameters can be finally displayed and recorded automatically in a computer screen at control room which can have one user who can monitor all the facility health status centrally.

**BMS systems allow to control the following parameters:-**

- 1) Temperatures, relative humidity and air flows on the AHU
- 2) Differential pressures in the Cleanrooms
- 3) Temperature of the heating and cooling systems for the AHU
- 4) Temperature of the heating system for the radiator



We Take Full Responsibility for the  
Completion of your Cleanroom  
Project

We are committed to deliver your  
project on time and in accordance  
with the performance requirements

We Manufacture the entire  
cleanroom in our own plant, we  
control every aspect of the  
manufacturing plant.

A quantifiable success in the  
design , engineering and  
construction of Turnkey Cleanroom

At the end, Words don't matter , but  
**RESULTS** do....

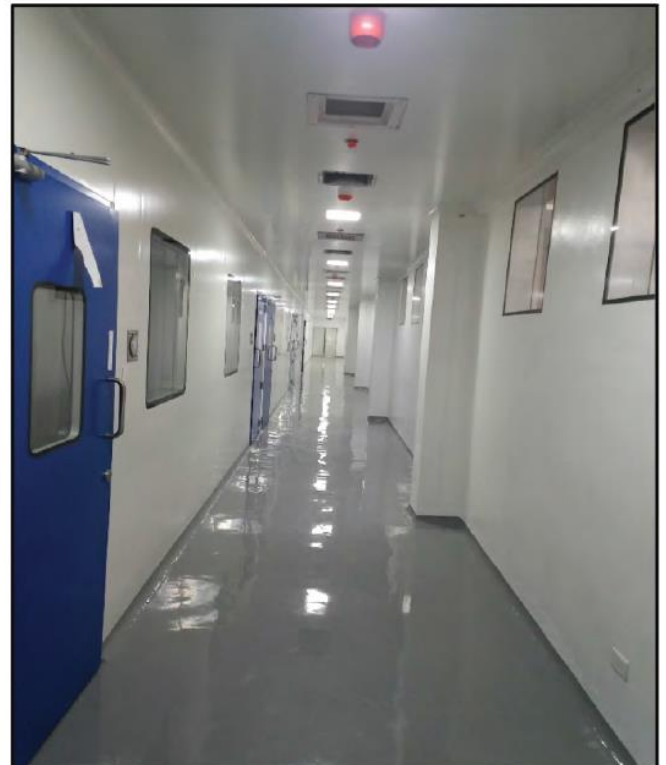


"Creation of the highest value of  
customer satisfaction "





## Site Installation



Name of the Company : Lloyd Laboratories Inc  
Location : Philippines  
Year of Execution : 2016 - 2017

## Site Installation



Name of the Company : Ordain Healthcare Pvt Ltd  
Location : Chennai , India  
Year of Execution : 2012 – 2013

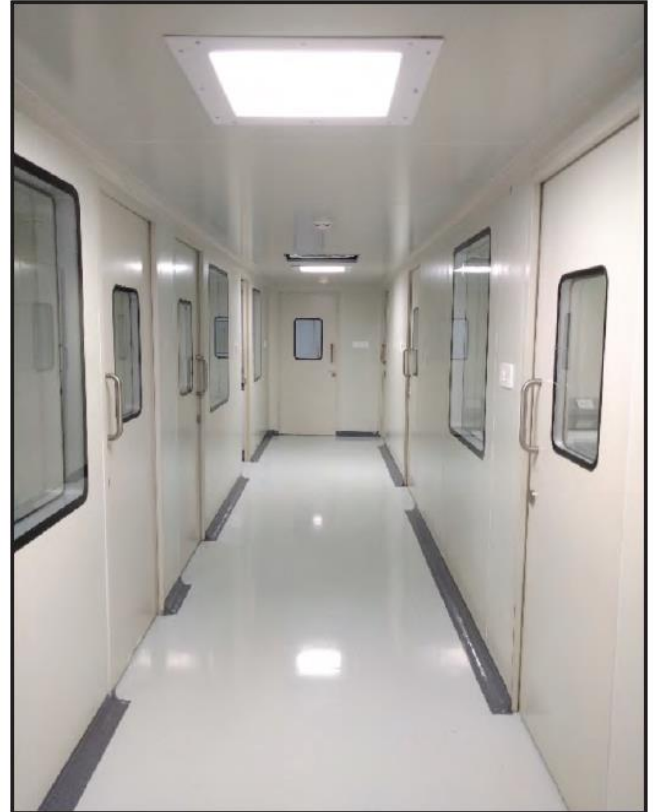


## Site Installation



Name of the Company : Glaxo Smith Kline(GSK)  
Location : Egypt  
Year of Execution : 2015 – 2016

## Site Installation



Name of the Company : Navin Saxena Research & Technology Pvt Ltd

Location : Gujarat

Year of Execution : 2016 – 2017



## Esteemed Projects

## Quality Policy

“Quality” is the ultimate factor for success in every level of business and life. AASTHA chooses to maintain & be respectable in its quality standards to fulfill our responsibilities and objectives.

AASTHA and its employees are committed to comply with requirements and continue to improve the effectiveness of the Quality Management System in ensuring total product satisfaction. The industry will benefit from our product quality as a whole.

Thank you and assuring our best co operation all the times and looking forward strong business relations in future with you and your organizations.

## Our Global Projects



### Our Corp Office:

#### **Aastha Cleanroom Systems Private Limited**

Plot No . 417, 5<sup>th</sup> Floor, 503, Akansha Apartment  
D.K Sandu Marg, Chembur (East)  
Mumbai – 400 071 , Maharashtra ,India  
Tel : +91 – 22- 25258041/42/43 /25255086  
Web site : [www.aastha-india.com](http://www.aastha-india.com)

### Factory Address :

Plot No. L-2/3, Additional MIDC, Mahad, District -  
Raigad – 402 302, Maharashtra, INDIA  
Tel: +91-2145–250080 / 250081

### Regd. Office Address :

Plot No. 105/B, 10, Leela Villa, N. G. Acharya Marg,  
Chembur (East), Mumbai – 400 071, INDIA  
Tel : +91- 22 – 25224603 / 4604 / 4605 / 4607