



Kay Bouvet Engineering Ltd.

"People make technology work"





Our Company

Kay Bouvet Engineering Ltd. is a heavy engineering company that provides **design, engineering and manufacturing services to the nuclear, defence and space industries**. We also execute **sugar plants on a turnkey basis, including co-generation power plants, ethanol distilleries and waste management systems**.

During our 40 years of operation in the heavy engineering industry, we have received **numerous accreditations from international organizations**, such as ISO 9001:2008, the ASME U & R Stamp and the AS 9100C.

In the last decade we have been qualified by the Indian Department of Atomic Energy to manufacture **some of the most critical components of a nuclear power plant**, we have **designed and manufactured high precision equipment for the Defence Research & Development Organization (DRDO)**, and have worked alongside the Indian Space Research Organization (ISRO) to **boost India's space launch capabilities**.

Moving forward, we believe our competitive advantage is based on our **state of the art infrastructure, highly skilled and versatile manpower, stringent quality assurance capabilities and dedicated management team**.

Special Products Division

- Over 20 years of experience in the nuclear industry
- **Long-term design & manufacturing collaborations** with the Indian defence and space research organizations
- **In-house design and analysis capabilities**

Sugar Division

- Accredited by NCDC for execution of sugar plants on EPC basis since 1995
- Over 30 EPC projects commissioned over the last decade



Our Team



Design

Our team has **several years of experience in designing high quality systems** using the latest design & analysis tools

- 3D CAD modelling
- Finite element analysis for various applications
- Piping design & analysis



Planning

Kay Bouvet has a proven track record of **completing all our projects to the satisfaction of our customers**

- Centralized ERP system for resource planning & management
- MS Project for detailed planning and scheduling



Manufacturing

Our manufacturing team is composed of a **highly qualified and versatile workforce**

- More than 80 qualified welders (as per ASME Section IX)
- 3 manufacturing facilities with state of the art CNC machinery



Quality Assurance

We have **well established QA systems with experience in highly critical jobs** for the nuclear, defence and space departments

- Level III NDE qualified personnel
- In-house NDE facilities (including ultrasonic, helium leak and radiographic testing)

Kay Bouvet Engineering Ltd. has more than 800 employees distributed across its network of offices and manufacturing facilities in India



Nuclear Division

The nuclear industry in India has been expanding rapidly during the last 20 years. Continuous support from the government, and the persistent drive to power the nation using clean, emission free nuclear energy has allowed this industry to thrive in the last decades.

In 1999, Kay Bouvet began its collaboration with the Department of Atomic Energy (DAE) and we have progressively expanded our operations as demand increased. Having **contributed to 2 of the 3 stages in the Indian Nuclear Power Program**, we are fully committed to realizing the goal of achieving 63GW of installed capacity by 2032.

Recently we have been **qualified as one of the only four companies in India to manufacture the Calandria** for the Pressurized Heavy Water Reactor, one of its most critical components.

Highlights

1. Accredited **EPC contractor by NPCIL for Heavy Water Upgr. Plants & Waste Mgmt. System** for a nuclear power plant
2. **Qualified for manufacturing the Calandria**, one of the most critical components in the nuclear island
3. **Active collaborators in the development of the Prototype Fast Breeder Reactor**, the stepping stone to the 2nd stage of the Indian nuclear power programme
4. **Almost 20 years of collaboration with DAE**





Underwater Trolley for PFBR

Project Experience

Over the years, we have gained experience in a **wide range of components for the nuclear island, balance of plant and conventional island**. We have also collaborated with BARC for **development of research prototypes**.

Our project experience spans:

- Heavy water upgradation & waste management plants
- Reactor components for PHWRs and PFBR
- Shielding equipment for reactor building
- Air Locks for materials, equipment, personnel & emergencies
- Storage tanks and vessels for coolants and moderators
- Spent fuel management systems
- Fuel storage, transfer & handling systems
- Fuelling machine servicing equipment
- Fuel fabrication, sampling and recovery equipment



Top Hatch Beam



Roll-on Shield



FM Service Cart



ARDM Flask



Carriage In MAL



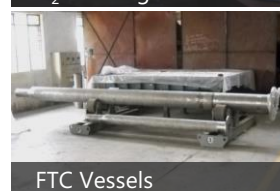
Air Lock



D₂O Storage Tank



ECCS Accumulator



FTC Vessels



Dilution Hot Cell



Defence Division

The Indian Government's thrust on indigenization of manufacturing, impactful reforms in the defence sector, and increasing competitiveness in the international market have positioned **India as a key player in the global defence industry.**

Kay Bouvet has been a **strategic partner for the Indian Defence Research and Development Organisation for the last several years.** Our large scale manufacturing facilities, qualified design department, strict quality standards and project management capabilities have enabled us to serve the requirements of DRDO with the highest quality and precision.

Our aim for the next years is **to be at the forefront of the domestic defence industry** and supply high quality technology at competitive prices to defence organizations worldwide.

Highlights

- **Specialized team for mechanical, structural and thermal design & analysis** for various R&D projects
- **Integration of military grade control & instrumentation systems** with mechanical components
- **Close collaboration with LRDE for development of turntable mounted mobile radar systems**





Metallic canisters for R&DE

Project Experience

Radar systems

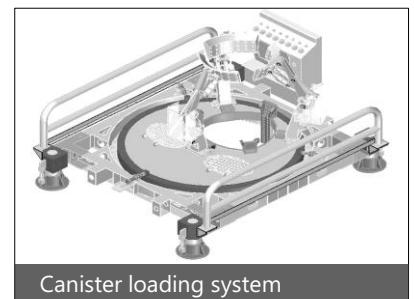
Long range antennae mounted on a turntable for missile detection and interception.



Antenna Mechanical Vehicle

Missile storage & transportation systems

High tensile strength metallic canisters capable of withstanding up to 33 Bar internal pressure, precisely machined with CNC controls.



Canister loading system

Missile loading & handling systems

Design, analysis & manufacture of submarine mounted system for loading of canisters, including fully automated control systems for handling, indexing, and loading.

Test rig for missile launcher

In-house design, analysis & manufacturing for testing of launcher systems by simulating missile launch loads.



Test Rig for SARJA II launcher



Space Division

After years of research & development the Indian Space Research Organization (ISRO) has established itself as a key player in the international market due to its **efficiency, reliability and timeliness.**

During the last years Kay Bouvet has become a **key partner of ISRO**, providing critical components for their space launch vehicles and support facilities.

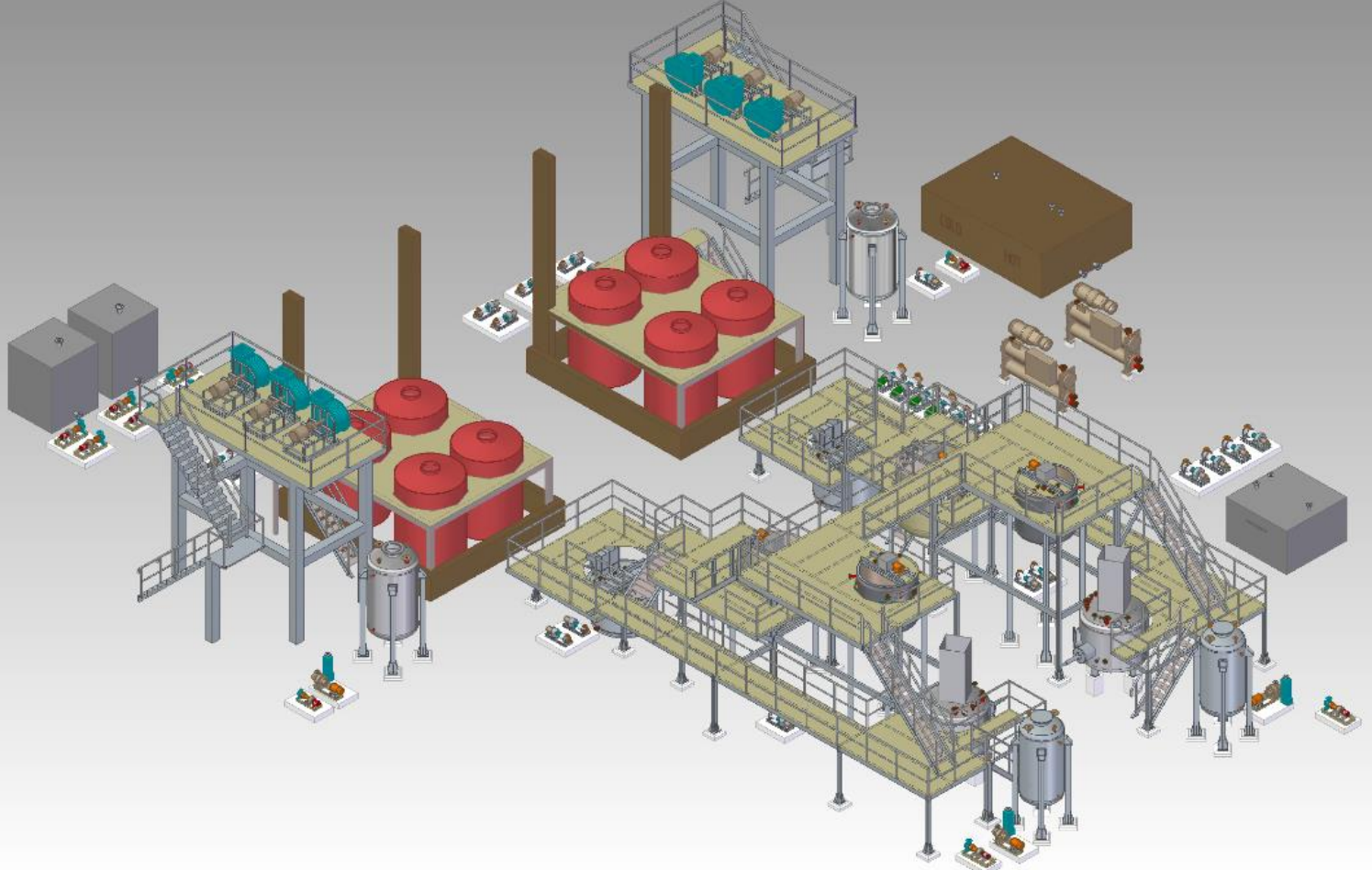
This collaboration was established based on our high precision infrastructure, experience in handling specialized materials, welding qualifications and strict quality management standards.

Kay Bouvet believes in the vision of **India becoming a leader in the global space industry**, and we plan to work with ISRO to make this vision come true.

Highlights

- **EPC project** under commissioning for setting up **solid propellant processing facility**
- **Dedicated facilities** for precision manufacturing of motor casings
- **Expanding ISRO's launch capabilities** by manufacturing a second vehicle assembly building





Ammonium Perchlorate Processing Facility

Project Experience

Solid propellant processing facilities

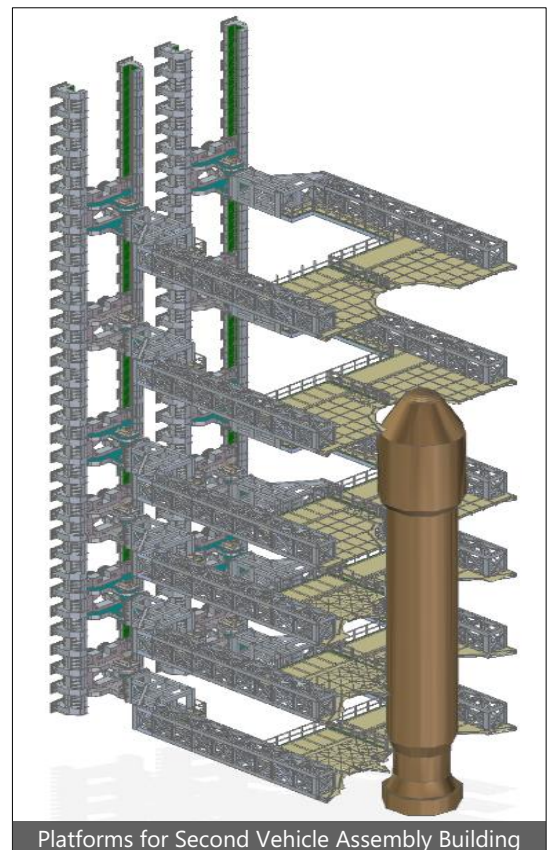
Design, manufacturing & commissioning of ammonium perchlorate recovery and processing plants on an EPC basis, with associated control & instrumentation.

Vehicle assembly buildings

Manufacturing of folding, swinging and vertically repositionable platforms for second vehicle assembly building for GSLV-MK-II and GSLV-MK-III vehicles.

Rocket motor casings

Manufacturing of rocket motor casings using high tensile strength materials and precise fabrication & machining processes.



Platforms for Second Vehicle Assembly Building



Vijay Sugars 2500 TCD & 12.5MW Co-Gen Power Plant

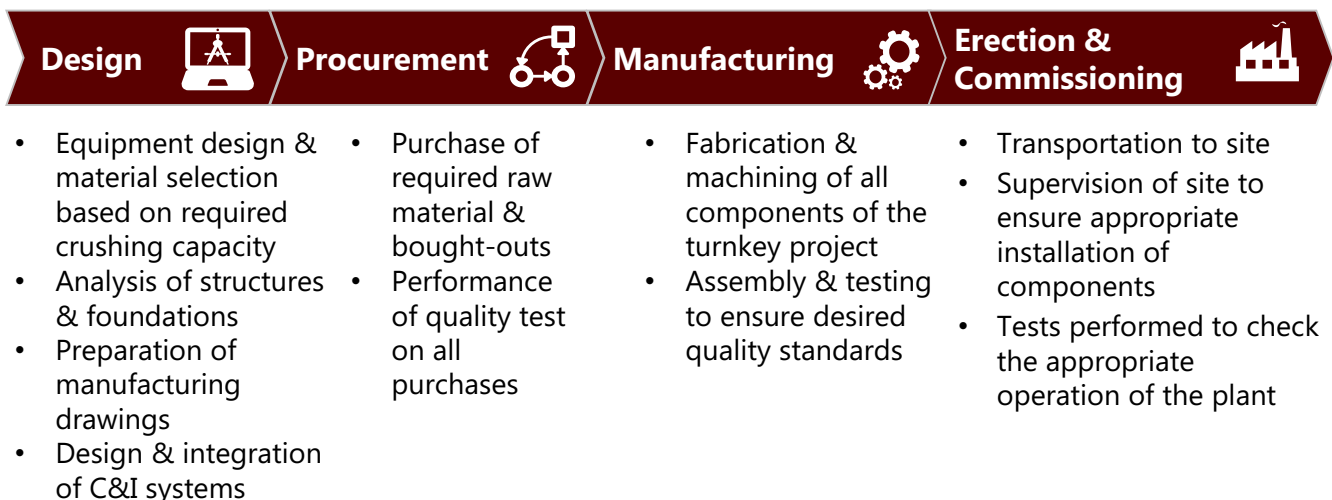
Sugar Division

Worldwide there is a clear need for a **holistic approach to industrial sugar production, from sugar cane & beet plantations, to sugar plant design, manufacture and operation.** That is why during the last decades we have developed a team with wide experience in all the fields necessary to successfully develop sugar cane & beet anywhere in the world.

Kay Bouvet has capabilities to execute **sugar projects up to 30,000 TCD** (tonnes crushed per day) on an EPC basis, right from concept to commissioning.

Our projects span the range of engineering activities from design and manufacturing of heat exchangers, boilers, pressure vessels, associated piping, conveyor systems and structures, to control and instrumentation.

Turnkey Sugar Mill Project Development





Co-Generation Power Plants

A Co-Generation power plant is fueled by the **by-products of the sugar manufacturing process** and generates electricity both for the sugar plant and the region around it, resulting in an efficient and economical biomass based source of energy.

Characteristics

- Up to 50MW of total electricity output
- High pressure steam generators of up to 105 kg/cm² (200 tonnes/hr steam)
- Fueled entirely with bagasse, the main by-product of the sugar manufacturing process
- Environmentally friendly, with reutilization of by-products for bio-compost
- Provided with evacuation arrangement for power & synchronization with grid

Bio-Ethanol Distilleries

Bio-fuels are already a large part of total fuel consumption worldwide and their demand has been continuously increasing. Some reports estimate that bio-fuels will represent **27% of world transportation fuel by 2050**.

The leading country in Bio-Ethanol technology is Brazil, where companies like Reunion Engineering have many decades of experience in this technology, providing the latest advancements to their global partners.

For the last decade, Kay Bouvet Engineering has been allied with Reunion Brazil Engineering, to **develop the highest quality distilleries tailored to our clients requirements**.



Special Products Division Workshop

Our Capabilities

Quality	Facility	Specifications	Maximum Weight
<ul style="list-style-type: none"> ISO 9001: 2008 certified company AS 9100 C (aerospace manufacturing) ASME U & R Stamp 	CNC Vertical Turning Lathe	Table Swing - 10400 mm Max Height - 3500 mm	90 Tons
	CNC Horizontal Boring Machine	X- 34000 mm / Y- 4000 mm Z- 1800 mm	200 Tons
	CNC Horizontal Boring Machine	X-13000 mm / Y- 6000 mm Z-1850 mm	200 Tons
Precision <ul style="list-style-type: none"> Accredited to manufacture some of the most critical components in a nuclear power plant Leica Absolute Tracker with accuracy of +/- 10µm 	Vertical Milling Centre	X- 1250 mm / Y- 630 mm Z- 700 mm	4.5 Tons
	CNC Lathe	Center Dist - 6000 mm Swing Over Bed- 2000mm	70 Tons
	Plate Bending with DRO	Width- 2500 mm Thickness- 90mm	---
	CNC Cutting Machine	15000 mm x 2500 mm	---
Scale <ul style="list-style-type: none"> Material handling capacity of up to 200 MT & more than 800 employees 	Heat Treatment Furnace	13 m x 8.5 m X 7.5 m	150 Tons
	Hydraulic Press with Manipulators	Dished end dimensions: Dia-5500 mm Thickness 50mm	1000 Tons



CNC Machine Shop

Manufacturing Facilities



Plano Miller



CNC Horizontal Boring Machine



CNC Cutting Machine



Vertical Turning Lathe



CNC Lathe



CNC Vertical Turning Lathe



Hydraulic Press





Stress Relieving Furnace





Clean Room – 100,000 ppm

Our office network



Satara – Headquarters & Manufacturing

- Marketing, Finance, Design, Purchase & Production Departments  +91-2162-246153, 54 & 55
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At Kay Bouvet we have a main belief: ***innovation is key to all our processes***

In the last decade we have developed collaborations with the leading organizations in Nuclear, Defence & Space engineering by providing unrivalled service and quality. We have also developed a team of talented professionals eager to redefine how heavy manufacturing is done today.

*One thing is clear: **we will not stop moving forward***



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