FIRST ENTERPRISES

INTEGRATED ENERGY MANAGEMENT SERVICES

About Us

Wherever you are in the world, in whatever industry, you can rely on our international teams of experts to provide you with specialised business solutions
to make your business faster, simpler and more efficient. We partner with you to
offer independent services that will help you reduce risk, streamline your processes and operate in a more sustainable manner.

We pride ourselves on providing the best energy efficiency guidance for our clients by way of providing simple and cost effective solutions for energy savings through Waste Heat Recovery and Energy Conservation projects which are simple to implement, quick to execute and have lowest payback periods. Our commitment is towards conserving energy and not an Audit exercise.
An improvement in energy efficiency within your organisation can potentially bring significant business benefits. With this in mind, First Enterprises provides tailor made Audit Proposal and Project Management post the Audit exercise to prove the Audit recommendations practically. Energy audit services are a key part of our dedicated energy efficiency services and the first step towards your comprehensive energy management strategy.Our audit provides you with a clear understanding of energy consumption in your buildings and facilities. Quantitative findings can provide substantial practical guidelines for:

- Continuous improvement in production efficiency
- Identifying cost saving opportunities in energy efficiency

Our team consists of a few energy auditors who are driven by their goal of energy conservation, certified from Bureau of Energy Efficiency - BEE (Dept under Ministry of Power, Government of India) and a senior BEE Accredited energy Auditor, along with a marketing head who has more than 5 years of experience in marketing and sales of energy efficiency related products.

We are constantly looking beyond customers' and society's expectations in order to deliver market leading services wherever they are needed. We have had the privileged to execute projects for a varied clientele, OEMs, automotive ancillaries, Tyre Plants, Hotels, Hospital, Commercial office buildings, Power plants (both Thermal and Nuclear), Refrigeration Plants, Railways, Aeronautics and a town, to name most of it though not exhaustive, during the past few years.

We have tie-ups with Energy benchmarking companies, lighting manufacturers and other plant and machinery manufacturers required to help you save energy Once you avail our services we may have a long term tie up to address your energy issues and help you save from your hefty energy bill and add a little something to your bottom-line. Let's use energy optimally.

Mission

To become a key player in the field of energy conservation and clean energy by providing quality services and products to our customers

Vision

We aim to be the most competitive and the most productive service organisation in the world. Our core competencies in inspection, verification, testing and certification are being continuously improved to be best-in-class. They are at the heart of what we are

Our Management

Aanirbann Dutta
Founder & Managing Director

Aanirbann holds a Diploma in Full time MBA from International Management Institute – IMI, New Delhi. Further to graduating in 1999, he started his career with Auto Ancillary major Sona Koyo Steering Systems and then moved on to the role of a strategy consultant with Management Consultancy Firm AT Kearney, New Delhi.

In 2003 he founded First Enterprises, which is today in the business of providing Intergrated Energy Management Services for customers across the industry spectrum. In addition, Aanirbann is also a partner with a company which is in the space of manufacturing LED based solar and non-solar Lighting products through its manufacturing facility in Western India, since past 5 years.

Aanirbann is a product of Delhi Public School, RK Puram, New Delhi and a holder of undergraduate degree in Economics from Fergusson College, Pune.

Dinesh Kumar Tiwari
Technical Director (B.E.E Accredited Auditor)

Dinesh is a Mechanical Engineer from Institute of Engineers, Kolkata and also holds a diploma of MBA from IGNOU in Operations. Dinesh started his career with the Textile Industry working as maintenance engineer in T.I.T.S Bhiwani and Ashoka Dyeing & Finishing Mills in Ludhiana for 6 years. Further to that he moved in to the automotive industry working with Jay Bharat Maruti in Gurgaon in Plant Maintenance, a stint which lasted 13 years.

Dinesh was certified as an Accredited Energy Auditor from Bureau Of Energy Efficiency in 2009 following which he worked with A2Z Maintenance Services briefly before moving to GCE Consultants Pvt Ltd, India as Technical Director wherein he handled major domestic and international assignments.

He holds an impressive portfolio of having conducted energy audits and studies for multiple industries during the past 7 years as an Energy Auditor & specialist.

Dinesh has been Technical Director at First Enterprises since 2013.

Addressing the Power Demand

The reliance on fossil fuels presents major pricing, energy security and environmental challenges. Using a mix of efficiency measures, advanced generation technologies, and greater use of renewable power could almost have the projected annual rise in energy demand through to 2035.

	BUSINESS AS USUAL	ALTERNATIVE APPROACH
GROWTH RATE OF ENERGY DEMAND	2.1% per year	1.4% per year
REDUCTION OF FOSSIL FUELS SHARE	83%	74%

Financial, energy and sustainability challenges

Businesses in every sector are facing financial, energy and sustainability challenges that are threatening profit margins and corporate reputations. Crucially, rising energy costs and increasing pressures to reduce energy consumption are making the need to become energy efficient more of a strategic necessity than an option.

Energy Audit

Energy Audit Means the verification, monitoring and analysis of use of energy including submission of technical report containing recommendations for improving energy efficiency with cost benefit analysis and an action plan to reduce energy consumption.

Objectives of Energy audit:

- To achieve and maintain optimum energy procurement and utilization, throughout the organization.
- To minimize energy costs/waste without affecting production and quality.
- To minimize environmental effects

Why an Audit Makes Sense

Using energy wisely is important – to you, your business and to your electric cooperative. When you use less energy, it helps reduce our demand for power. That's not only good for the environment, but it's also good for your bottom line!

Who is Eligible

Businesses eligible for the Energy Audit program include commercial and industrial businesses, farming operations, local government facilities, not-for-profit and private

Mandatory Energy Audit (BEE- PAT Compliance)

BEE is authorized by the Government to implement and monitor the regulation under the ECA and support the Designated Consumers. Perform, Achieve and Trade (PAT) is a market based mechanism to enhance cost effectiveness of improvements in energy efficiency in energy intensive large industries and facilities, through certification on energy savings that could be traded. Targets for improvements in energy efficiency are set under section 14 of the Energy Conservation Act, 2001 in a manner that reflects fuel usage and the economic effort involved. The Government, in March 2007 notified units in nine industrial sectors, namely aluminium, cement, chlor-alkali, fertilizers, iron and steel pulp and paper, railways, textiles and thermal power plants, as Designated Consumers (Dcs).

ENERGY AUDIT PREPARATION

ENERGY AUDIT EXECUTION

ENERGY AUDIT REPORTING

POST - AUDIT ACTIVITIES

Post Audit Implementation

- Set up the current base line and install the monitoring system to check the improvements
- Approval of budget for EEM's
- Selection of team for implementation
- Selection of equipment manufacturers
- Start with small interventions without investment with implementation team
- Purchasing of equipment's and installation in existing system
- Monitoring of installed system
- Check results , if needs improvement, modification to be done
- If all implemented system is OK, checking of results against the initial base line
- Set up the new base line
- Design a check list to maintain the new system for desired results for years.
- Select a new project

Electrical Distribution Network Analysis

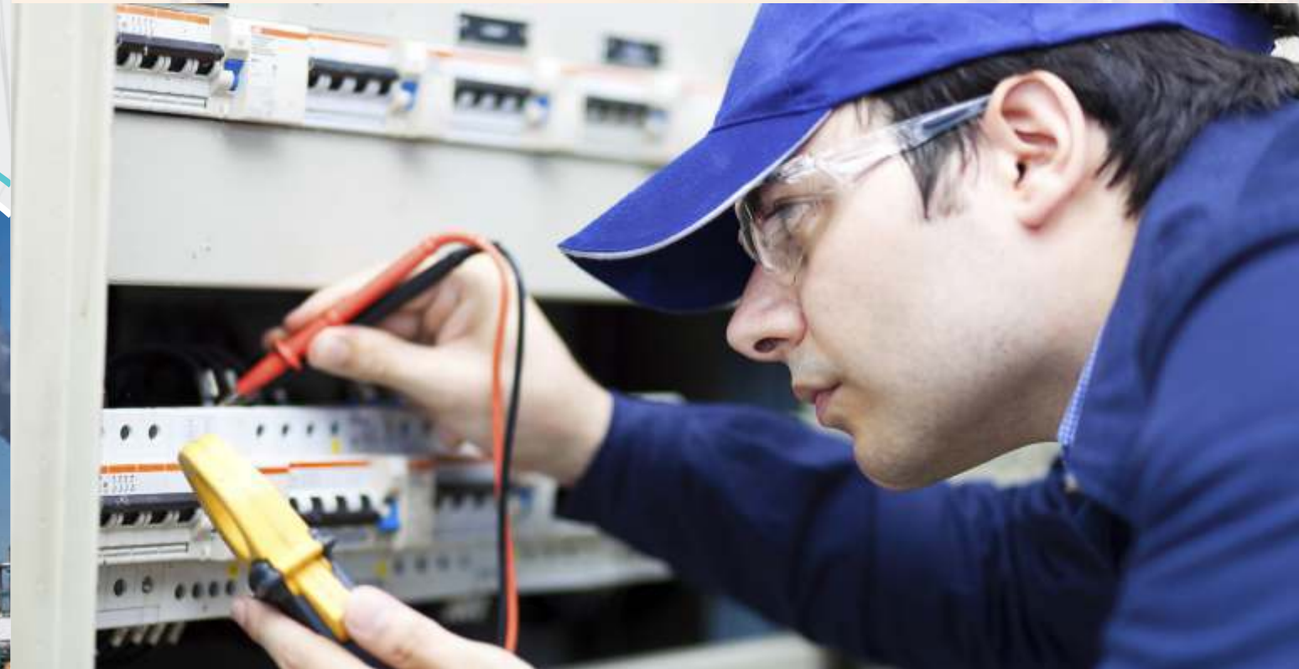
Electricity is a significant part of your life, yet one you rarely think about. But here at First Enterprises, we think about it every day. We work hard to evaluate the electrical distribution losses in your factory premises and suggest optimum solutions for the same.

Industrial area network distribution and audit—

a. Survey mapping and simulation of electrical distribution network (including HT consumers) of industrial area.
b. Assessment of existing energy metering status for all the EHT and HT consumers in industrial area.
c. Segregation of distribution loss into technical and commercial loss. Identify various components/factors contribution technical losses and commercial losses.
d. Carry out monthly consumption analysis and energy audit

Electrical Distribution Network Analysis

1. Mapping the entire Distribution network from the incomer till the load end.
2. Assessment of physical lengths of distribution lines / cables along with their sizes
3. Assessment of physical conditions of the cables/ conductors along with the joints, connections, de-rating due to undue heating etc.
4. Assessment of power factor available at the load centre and the motor terminals and reactive compensation to reduce losses.
5. Compilation of data regarding existing loads and operating conditions.
6. Checking out Load balancing in all the 3 –phases and suggesting ways to reduce the unbalance
7. To find the overloaded sections in the distribution network
8. Measurement of voltages available at the motor terminals, since lower voltages causes withdrawal of heavy currents in induction loads leading to losses.
9. Assessment of voltage regulation and suggesting methods to ensure that the maximum voltage drop at the receiving end is within the permissible limits.
10. Assessment of Harmonics.
11. Estimation of the financial requirements for implementation of the different phases of system improvement works.
12. Formulation of comprehensive system improvement schemes with detailed investment program



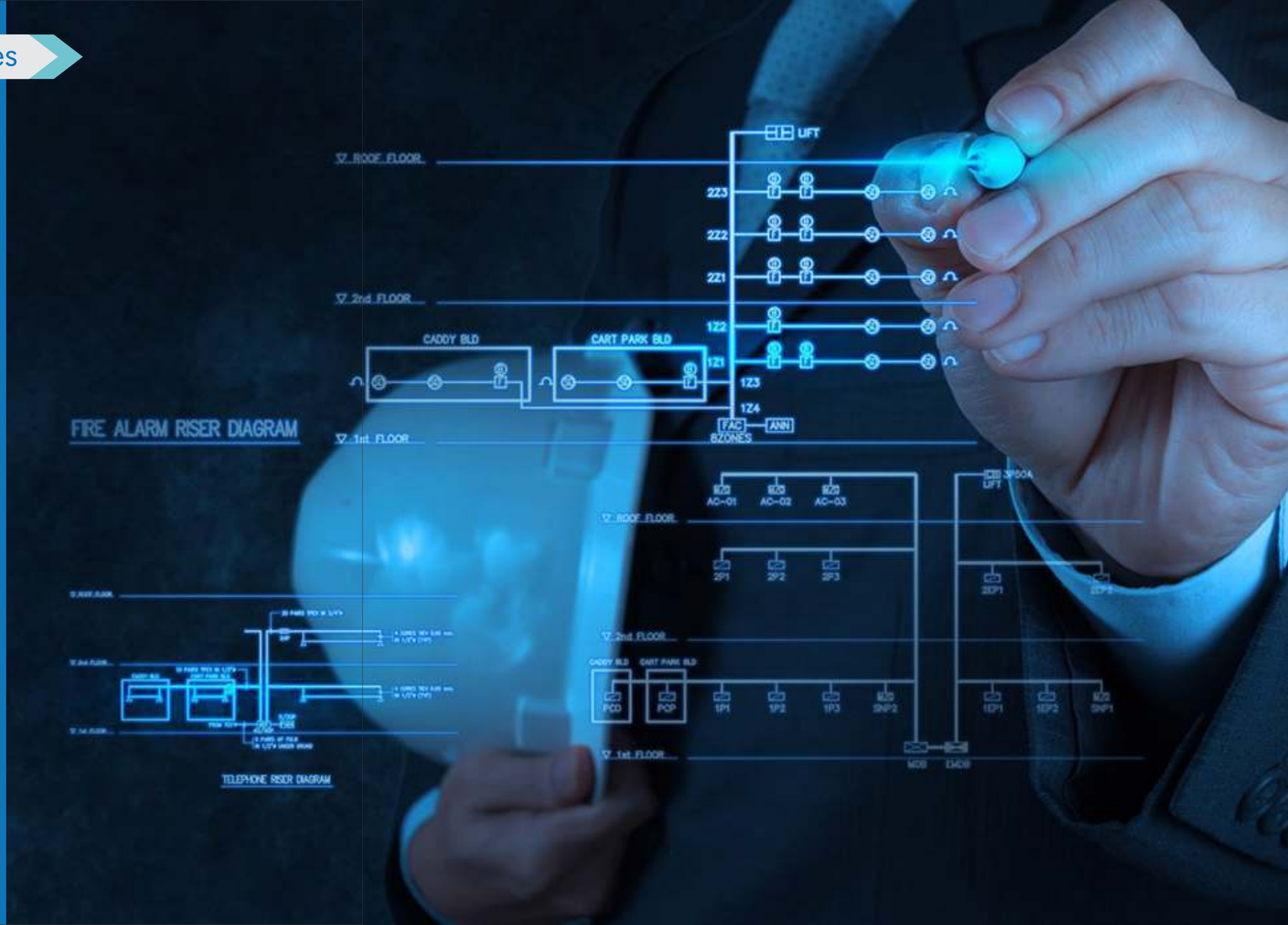
Specific Energy Management Services

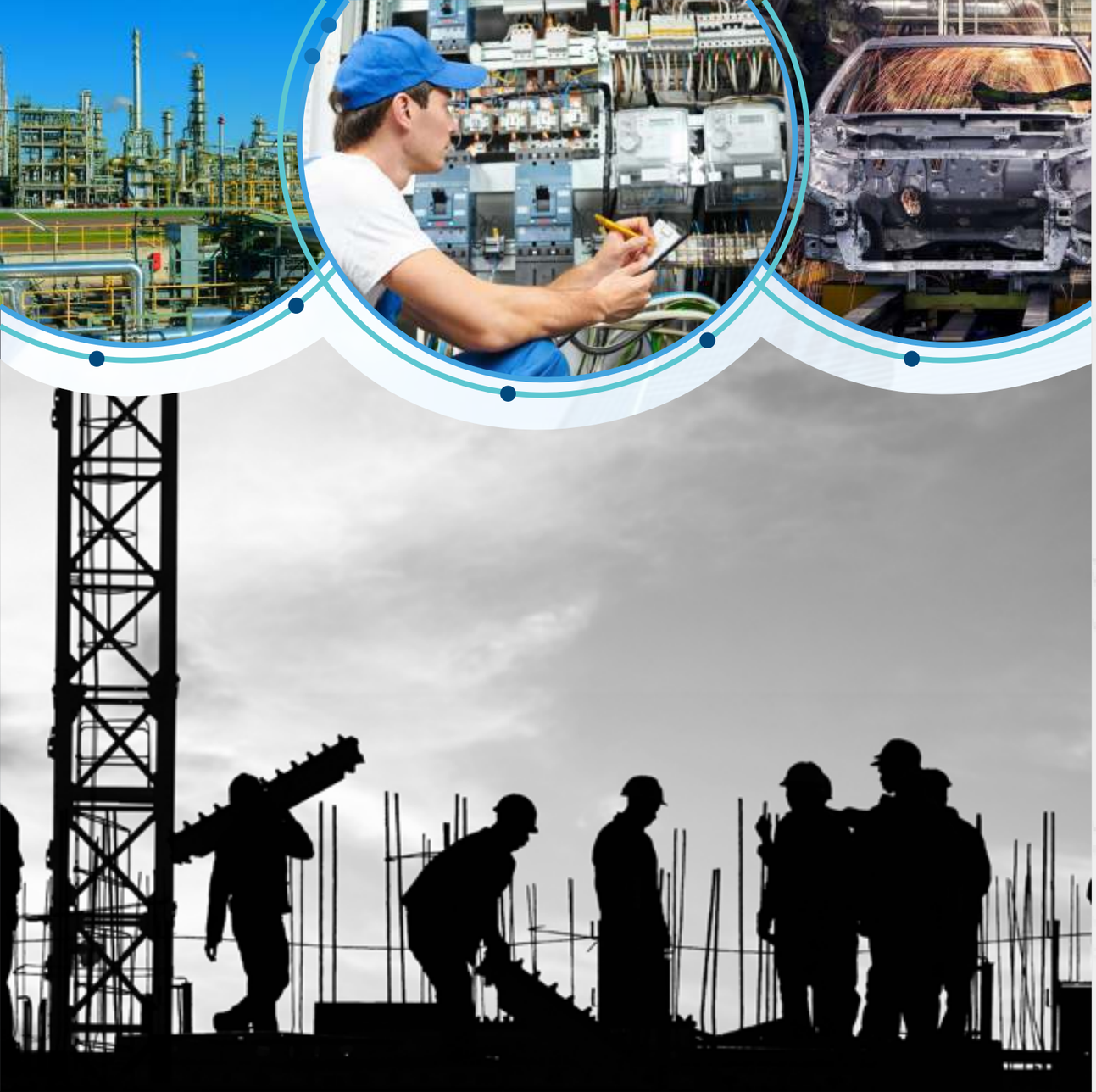
Waste heat recovery system – ORC-Organic Rankine Cycle technology.

Units working on the basis of thermodynamic Rankine cycle are widely used by conventional Power Plants. Approximately 85% of electrical energy is generated worldwide on the basis of Rankine Cycle. When using this cycle, thermal energy is transferred to the mechanical energy of turbine shaft rotation.

Advantages of ORC technology implementation
There are several advantages of ORC-based units operation in comparison with units based on conventional steam/water cycle.

- Lower rotation speed and mechanical stress of the turbine;
- Possibility to use direct drive for the generator (avoidance of losses in the reducer);
- Low noise and vibration levels;
- Significant operational resource and high operability (more than 50,000 hours of operation before the overhaul; non-stop operation – more than 98% of time; maintenance period doesn't exceed one week in a year).





Clientele

PSRI HOSPITAL
Pushpawati Singhania Hospital & Research Institute

Bharat Seats Groups

caparo

FUJITSU TEN MINDA

MINDA TG

VE COMMERCIAL VEHICLES
A VOLVO GROUP AND EICHER MOTORS JOINT VENTURE

JK TYRE & INDUSTRIES LTD.

JCB

JK TYRE & INDUSTRIES LTD.

JOHN DEERE

UNO MINDA

SHARDA MOTOR

THE FILTRATION COMPANY
ROKI Co.,Ltd

UNO MINDA
A MINDA GROUP

Shreyans GROUP

MILESTONE

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