



**AAD TECH GROUP**

**PIONEERING ENERGY EFFICIENCY FOR A  
SUSTAINABLE FUTURE**

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# ABOUT US



## EXPERIENCE & TEAM

30+ Years of Expertise



## PROJECT EXECUTION

750+ Successful projects with  
20,000+ EC fan installations



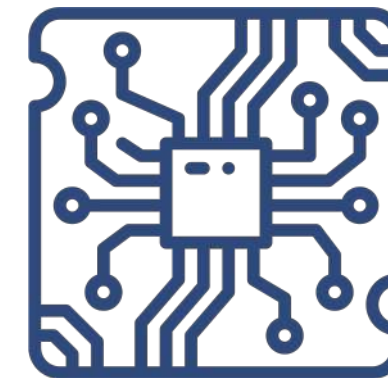
## ENERGY SAVINGS

Up to 70% Energy  
savings achieved



## SUSTAINABILITY

150+ million tons of CO2  
saved



## TECHNOLOGY & AUTOMATION

World's best EC technology with  
specialized Controllers & Automation

# GROUP COMPANIES



Established in 2008, AAD Tech India Private Limited, is a pioneer in Energy efficiency Retrofits of EC Fans in Air handling units and cooling towers, achieving substantial energy savings across multiple industries



Established in 1991, Melfrank Engineers LLP has extensive experience in designing & building cooling towers of varying capacity. The company specializes in converting timber to pultruded FRP tower & retrofits with EC axial fans, achieving energy savings & efficiency



Established in 1992, Airpac Cleantech Private Limited specializes in design & execution of cleanroom equipment's, adhering to global standards. Products include Fan filter modules, laminar flows and pass boxes



AAD Tech Environ Private Limited is the global arm of AAD Tech India Private Limited & has executed projects in Bahrain, Turkey, Oman, Egypt, Thailand, Indonesia, Saudi Arabia and Nepal



# PRODUCT PORTFOLIO



AHU, AWU, FAHU, Air  
Refinery Unit



Centrifugal fan



Axial fan



Fan Array



FRP Cooling Towers



Motor Control



BLE Controller



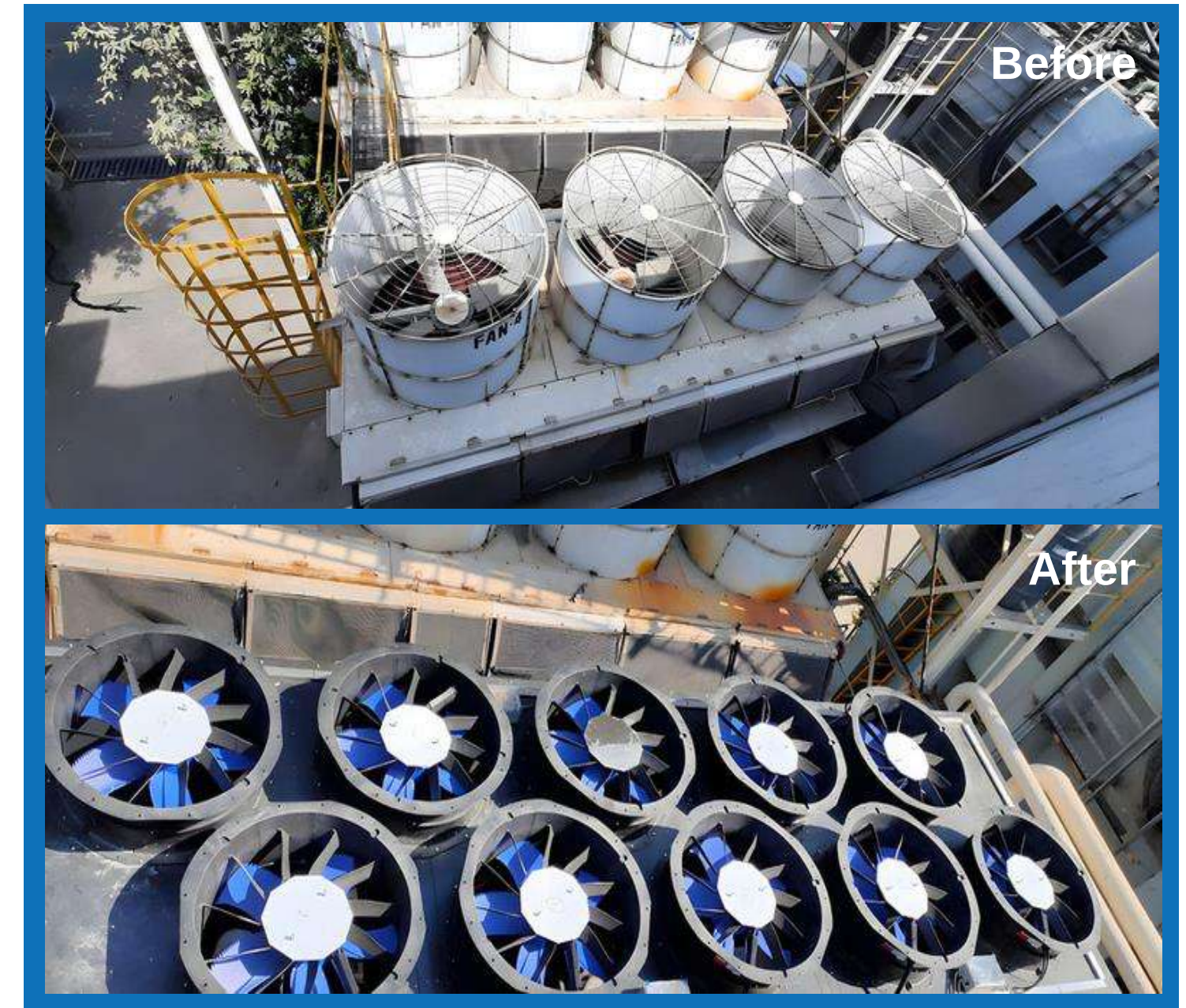
Cleanroom Products



# ENERGY EFFICIENT RETROFIT SOLUTIONS



Retrofit Solution in Air Handling Unit



Retrofit Solution in Cooling Tower



# TECHNOLOGY: EC FAN RETROFIT



**COMPONENTS  
REPLACED**

Motor

VFD

Belt & Pulley

Blower


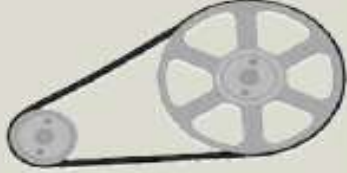

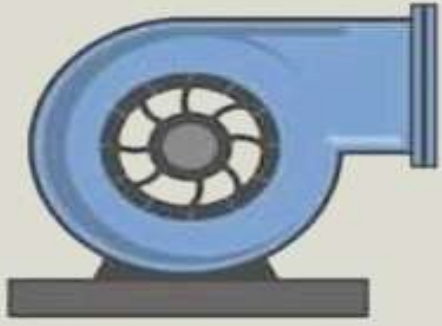
Harmonic Filters

Electrical Panels

Starters

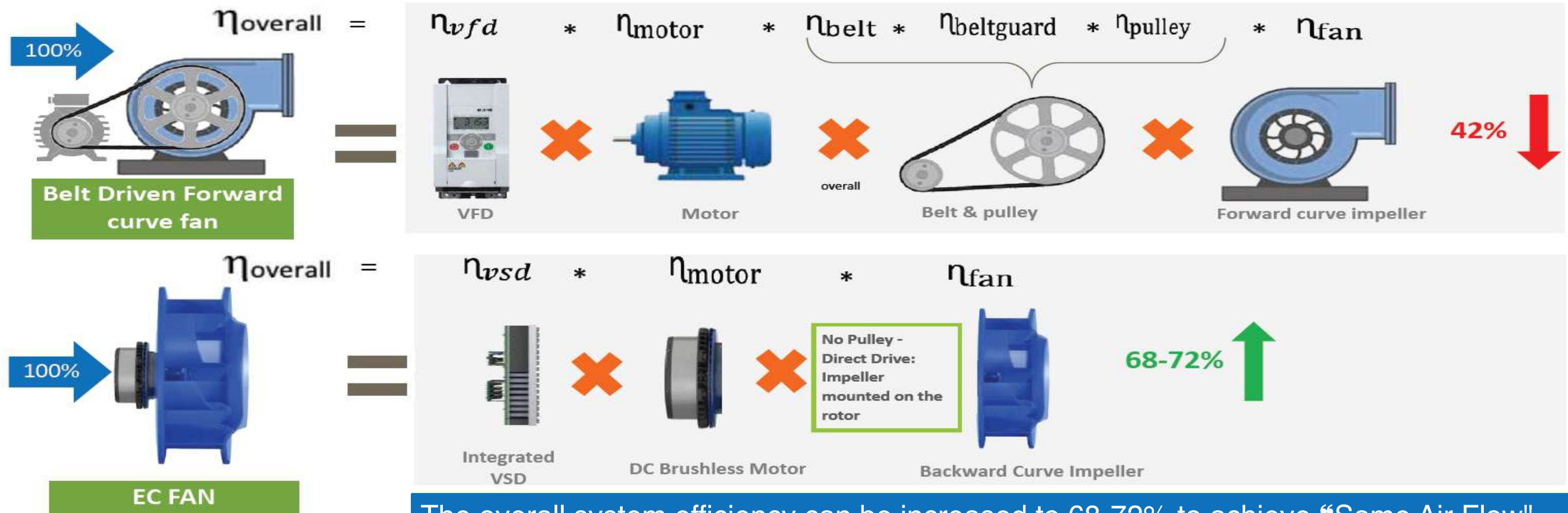
Capacitor Banks

# CONVENTIONAL AIR HANDLING SYSTEM EFFICIENCIES

SCENARIO	 <b>DRIVE LOSSES</b>	 <b>BELT &amp; PULLEY DRIVEN LOSS</b>	 <b>MOTOR EFFICIENCY</b>	 <b>BLOWER EFFICIENCY</b>	CALCULATION OF EFFICIENCY	OVERALL EFFICIENCY
<b>1. Designed efficiency</b>	3-5%	5-8%	85-90%	70-75%	$0.97 \times 0.92 \times 0.85 \times 0.7$	<b>50-55 %</b>
<b>2. Running efficiency</b>	3-5%	5-8%	75% (running efficiency of motor part load)	60-65%(running efficiency of blower is only )	$0.97 \times 0.92 \times 0.75 \times 0.65$	<b>40-45 %</b>

# SYSTEM EFFICIENCY

## MULTIPLE SYSTEM EFFICIENCIES COMBINE TO GIVE STATIC SYSTEM EFFICIENCY



The overall system efficiency can be increased to 68-72% to achieve "Same Air Flow" @ "High Efficiency" and "Lesser Power"



# AAD TECH EC DRIVE: EFFICIENCY & PRINCIPLE

## Conventional System

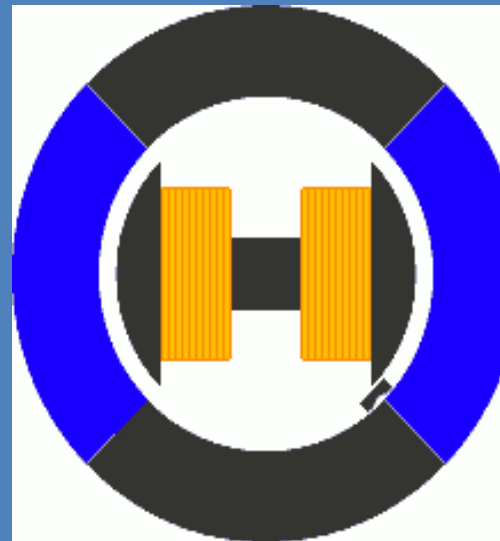


Motor Efficiency at varying load 70-80%

Motor Efficiency full load 80 -95%

Power Factor at drive level 0.6 to 0.8

## AAD Tech System

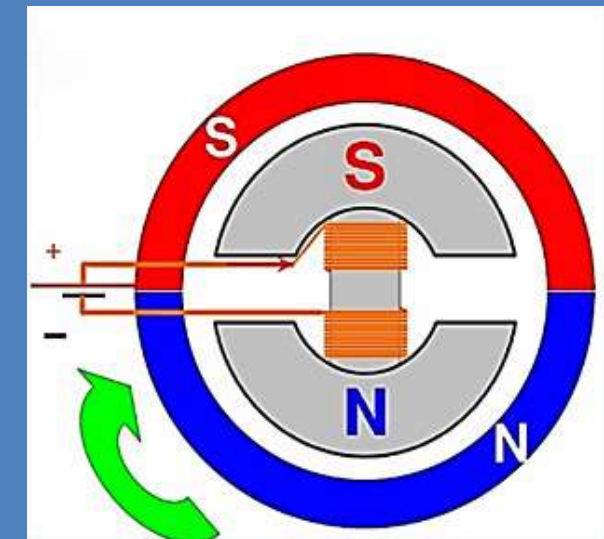


Motor Efficiency at varying load 92-95%

Motor Efficiency full load >95%

Power Factor at drive level Close to unity

## Working Principle



Rotor is outside that moves

Magnetic field induction

No External current required

# OUR SOLUTION VS CONVENTIONAL BELT FAN

PARAMETER	CONVENTIONAL FAN	AAD TECH SYSTEM
MOTOR EFFICIENCY	70-85%	93-95%
BELT MAINTAINANCE	Required	Not Required
BEARING MAINTAINENCE	Required	Not Required
COPPER LOSS	High	Non-Existent
SLIP LOSS	Yes	No
BELT AND PULLEY LOSSES	Yes	No
BLOWER WEIGHT	Heavy	Light
CORROSION RESISTANCE	No	Yes
VIBRATION PADS	Required	Not Required
SOFT START	Additional Equipment Required	Built In
MOTOR HEAT LOSS	Yes	No



# EUROVENT CERTIFIED SFP BASED SMART AHUS



## CASING AIR LEAKAGE CLASS L1

L1: 0.15 @ -400 PA & 0.22 @ +700 PA

## CASING STRENGTH D1

D1: MAXIMUM DEFLECTION OF 4MM/M

## FILTER BYPASS LEAKAGE F9

0.5% - 5.0%

## THERMAL TRANSMITTANCE T2

T2: 0.5-2.0 W/M2K

## THERMAL BRIDGING FACTOR

TB2



# ENERGY EFFICIENT COOLING TOWERS



ENERGY EFFICIENT COOLING TOWERS

TIMBER TO PULTRUDED FRP REVAMPING

STRUCTURAL DESIGN ANALYSIS

APPROACH BASED CONTROLLER

OVER THE AIR MAINTENANCE

IOT/CLOUD ENABLED

ENERGY EFFICIENT FILLS & DRIFT  
ELIMINATORS



# DMAIC: 5 STEP AAD TECH LEAN SIX SIGMA PROCESS



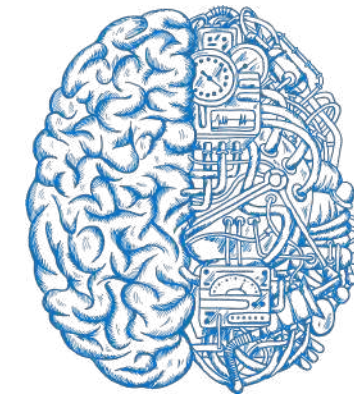
**Design:**  
Understanding  
Problem  
Statement, Data  
Collection &  
Evaluation



**Measure:**  
Solution  
Identification &  
System  
Measurement for  
Optimum  
Efficiency



**Analyze:**  
Analyze the root  
cause and  
develop an  
impeccable  
solution

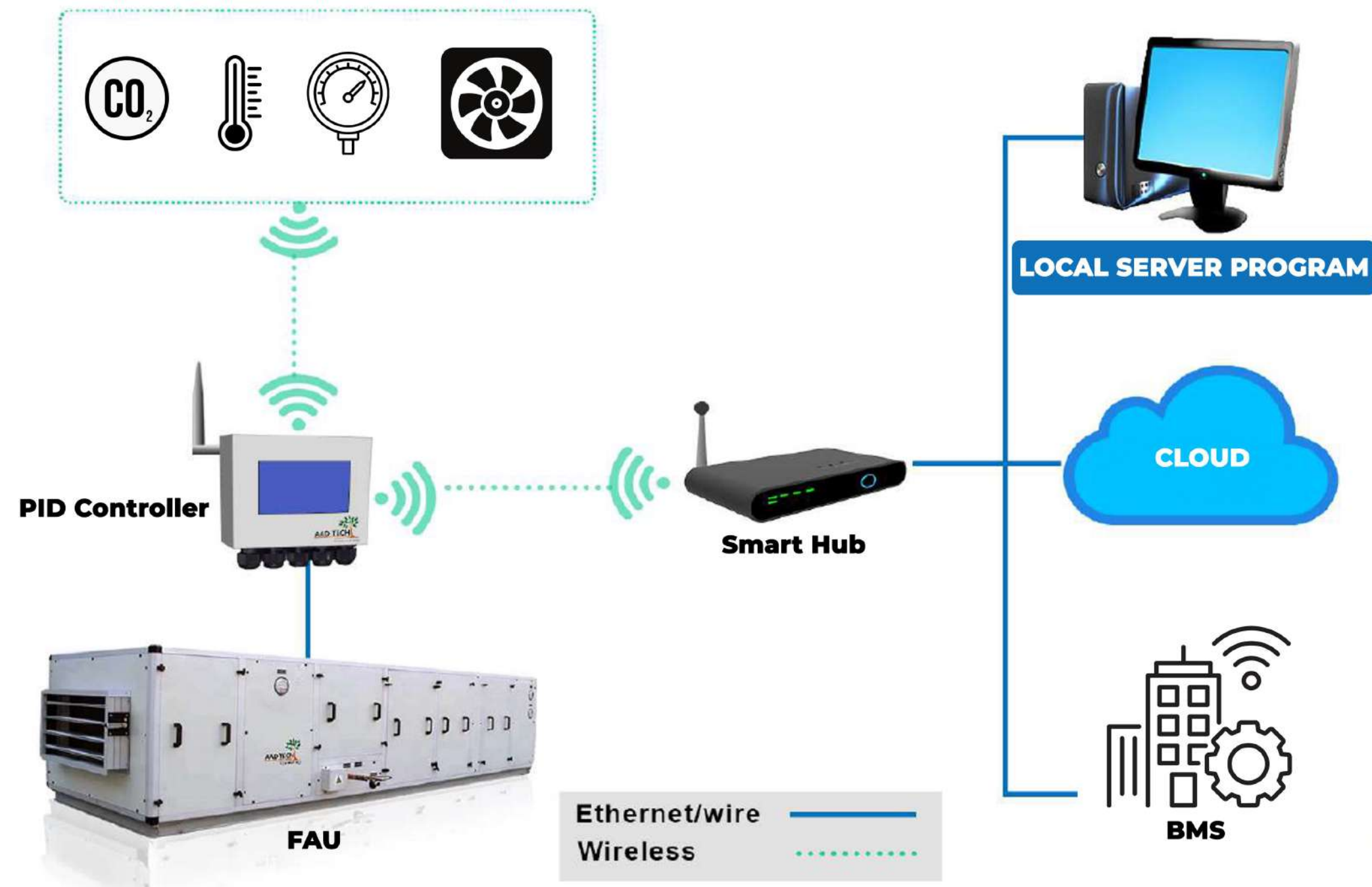


**Improve:**  
Solution  
Implementation,  
Installation &  
Commissioning.  
Performance  
Optimization  
using Automation



**Control:**  
Data Collection,  
IoT based Smart  
Cloud Over the  
Air Maintenance

# AUTOMATION: CONTROLLERS, SENSORS & IOT INTEGRATION



OVER THE AIR MAINTENANCE

MOTOR CONTROLLER

IOT/BLE/Bluetooth INTEGRATION

TEMPERATURE, VIBRATION & CO<sub>2</sub> SENSORS

SEAMLESS BMS INTEGRATION

BLE & OTHER CONTROLLERS



# INDUSTRIES CATERED



AUTOMOBILES



AVIATION



CONSUMER GOODS



HOSPITALS AND  
HEALTHCARE



PHARMACEUTICALS



OFFICE  
BUILDINGS/IT/BANKING



MALLS/HOTELS

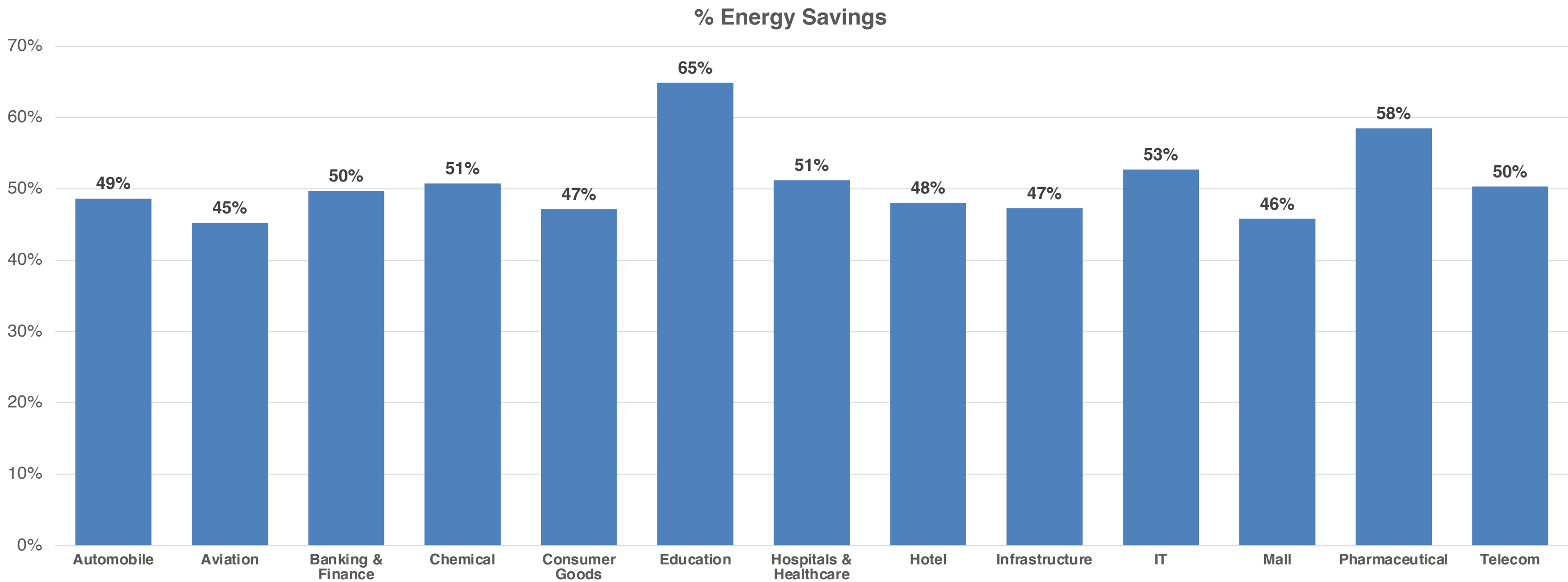


INFRASTRUCTURE



CHEMICALS

# ENERGY SAVINGS BY INDUSTRY

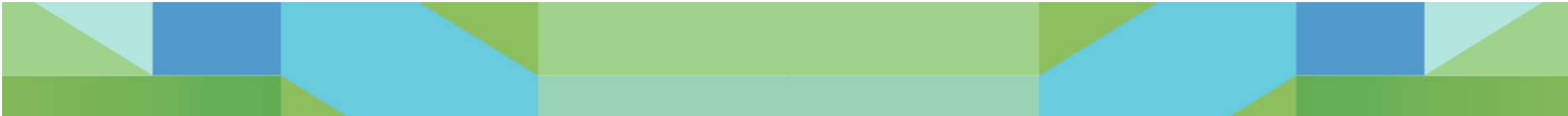
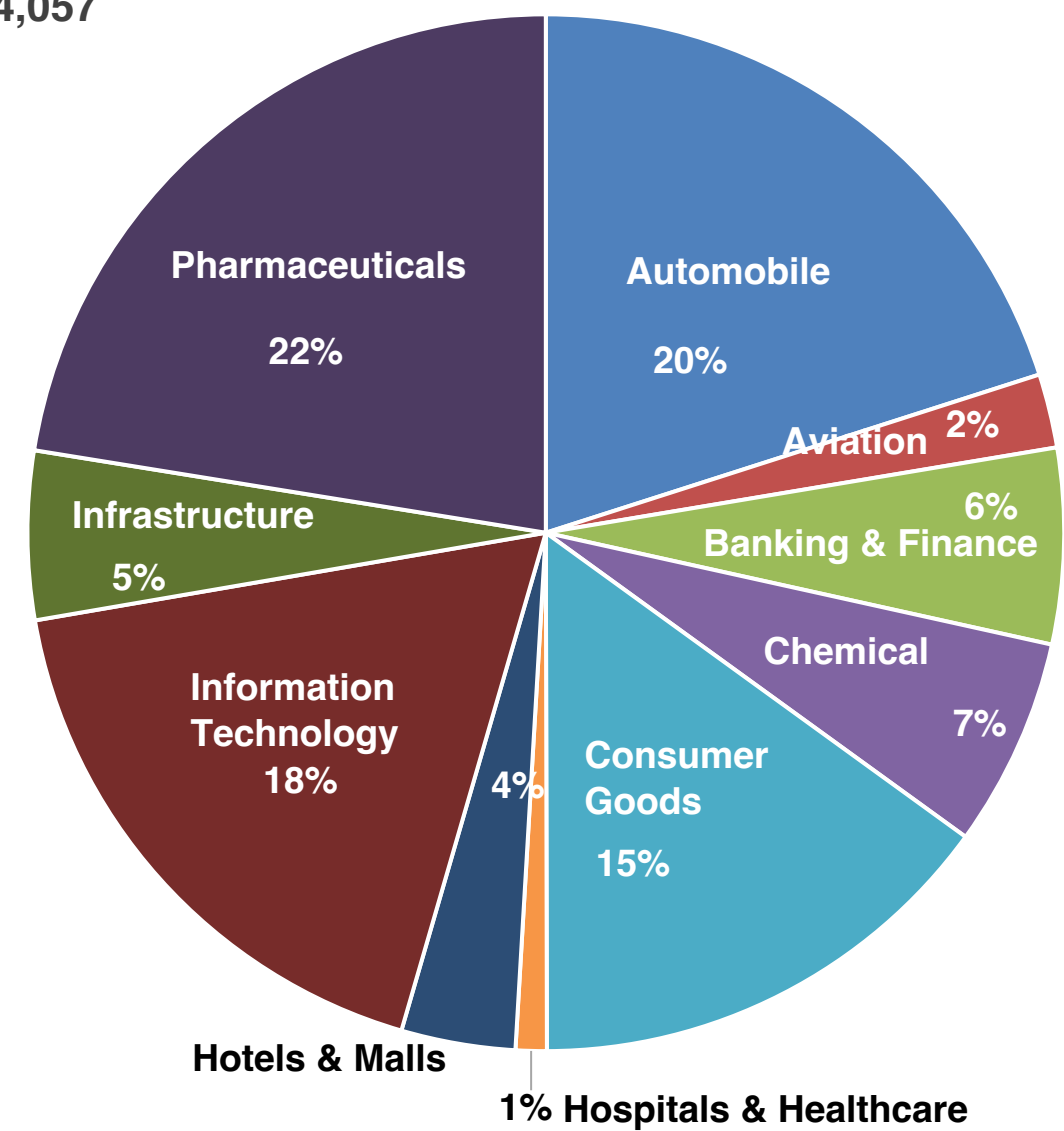
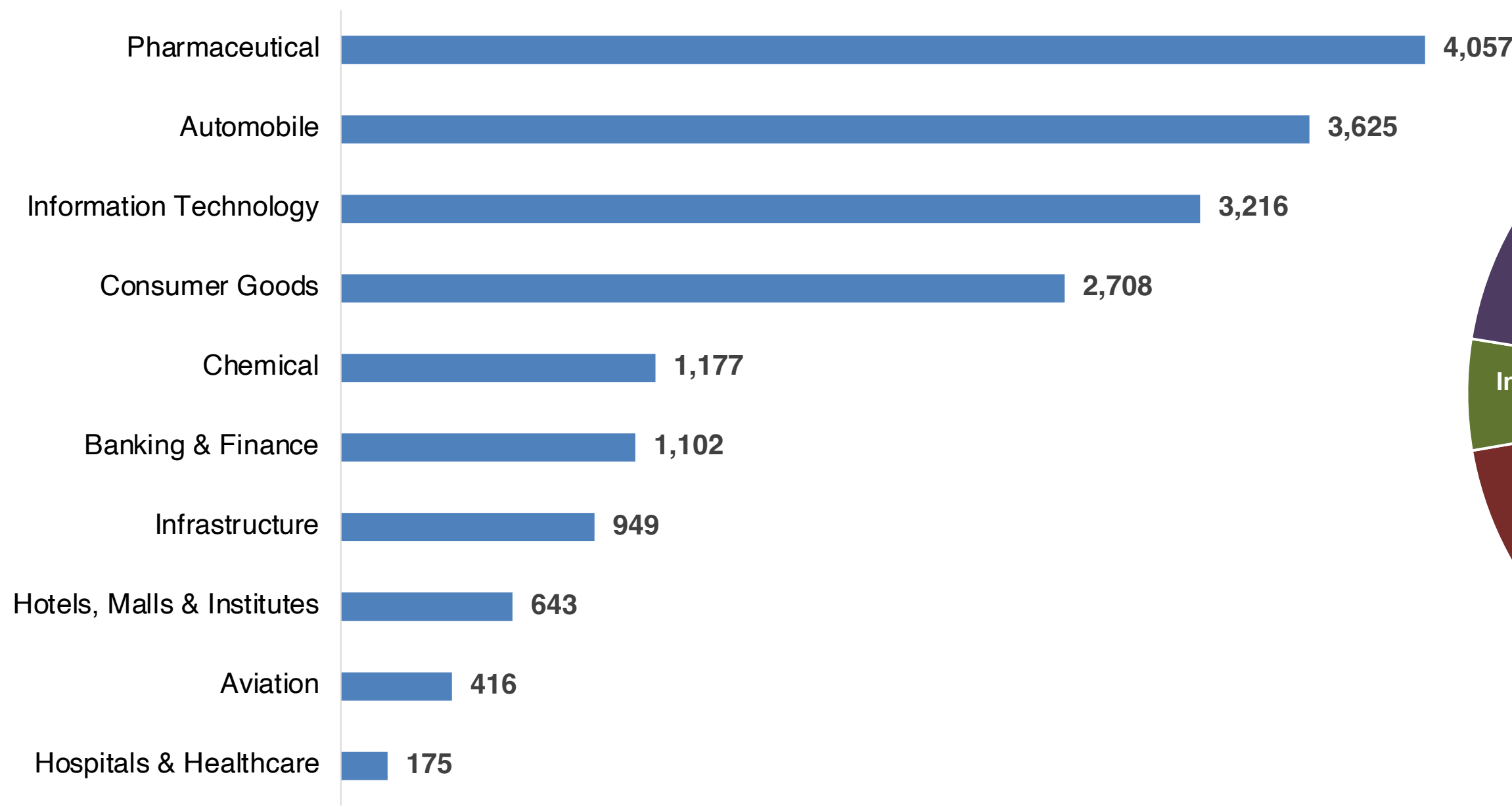




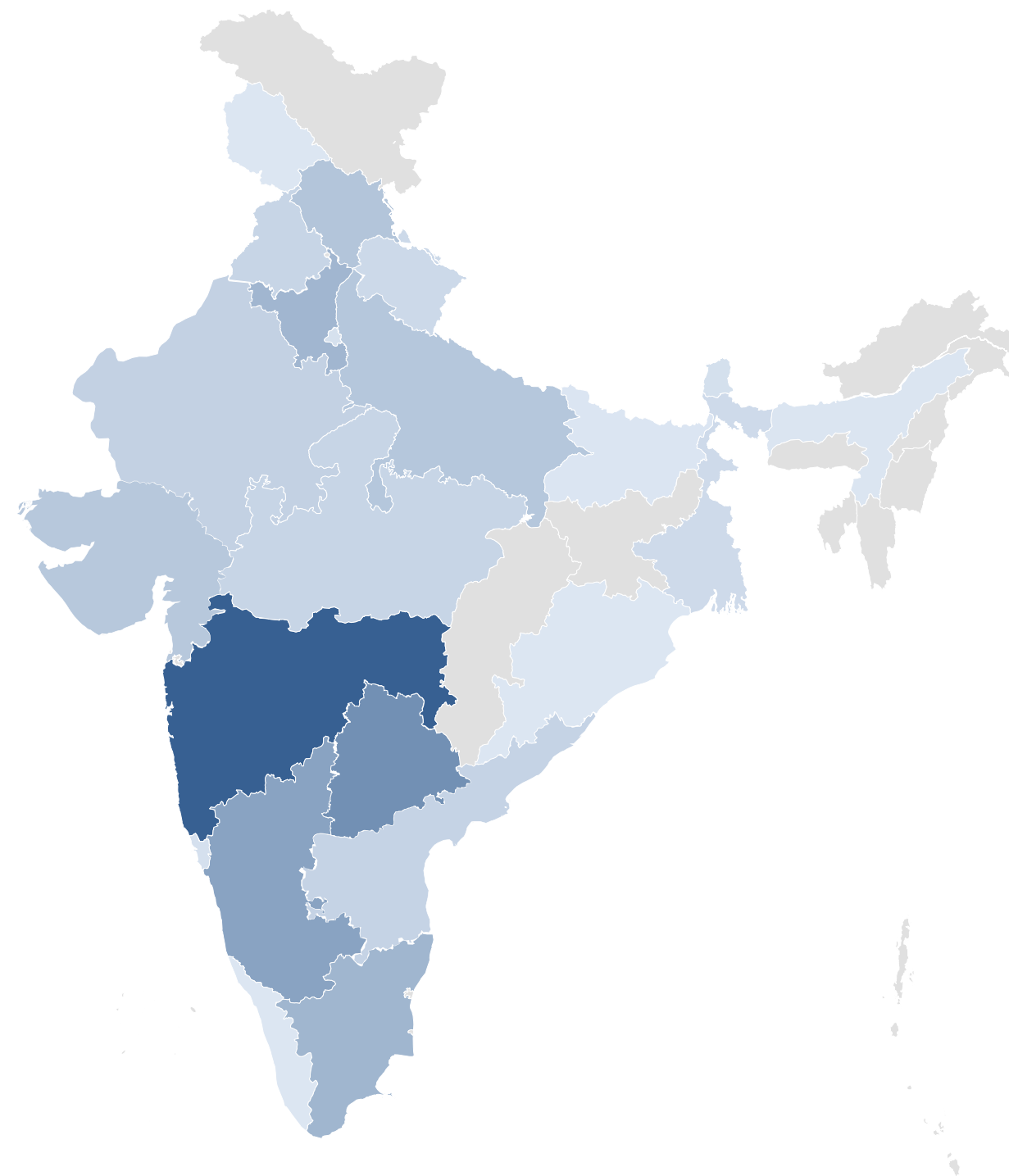
# WORK DONE BY INDUSTRY



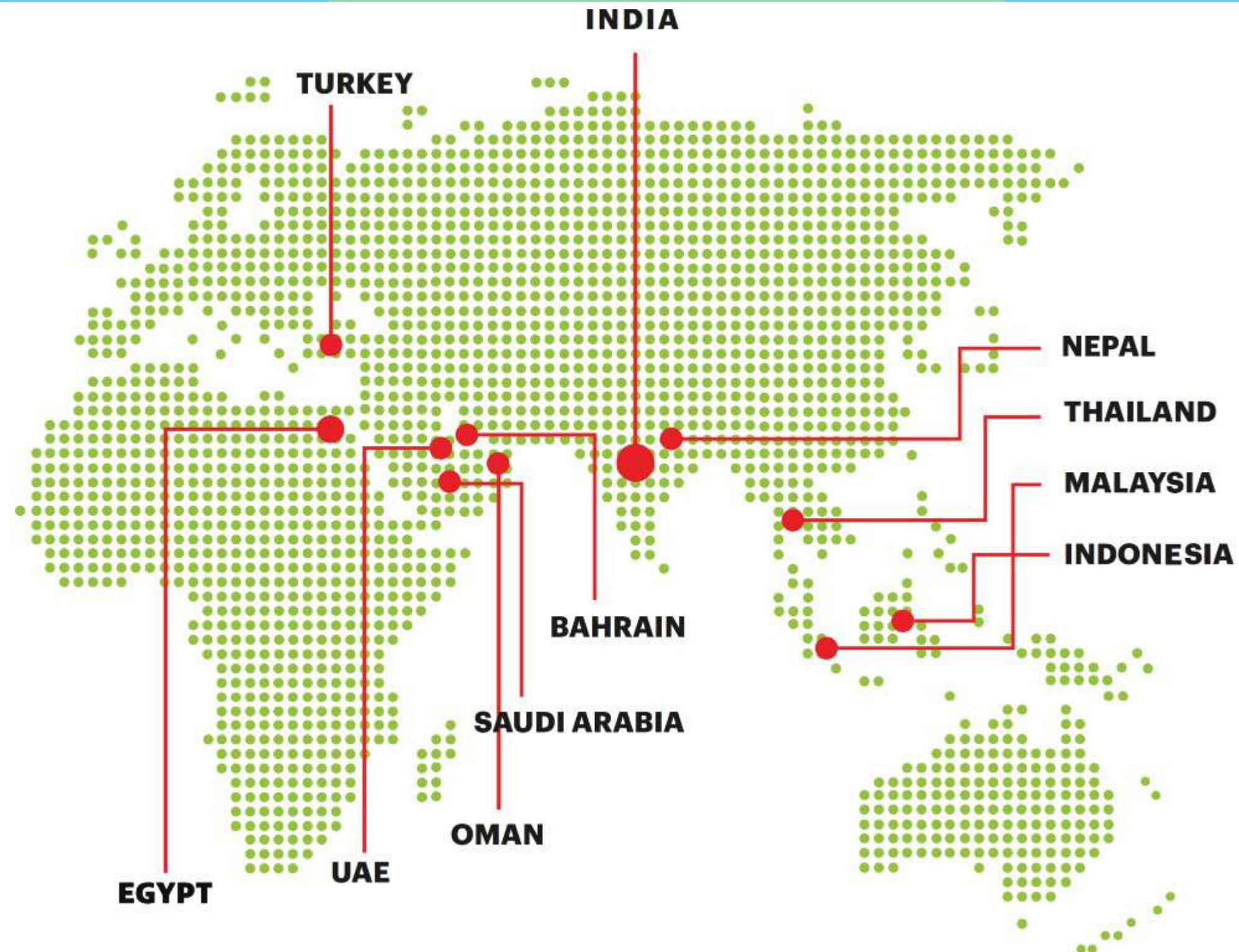
EC Drives Installed



# Domestic Presence: Installations



# GLOBAL PRESENCE





# FEW OF OUR ESTEEMED CUSTOMERS



# TESTIMONIALS



"I recently had the pleasure of working with Aadtech on AHU work, and I was thoroughly impressed by their professionalism and expertise. Their team went above and beyond to ensure that everything was done to the highest standard, and the results were fantastic. I would highly recommend their services to anyone in need of AHU work."

**- Project Manager, Cipla**

"Aadtech recently installed EC fans across our 23 AHU for plant air conditioning. Overall, it was a positive experience, where the team was professional, knowledgeable, and committed to quality."

**- Engineering Head, Mondelez, Bahrain**



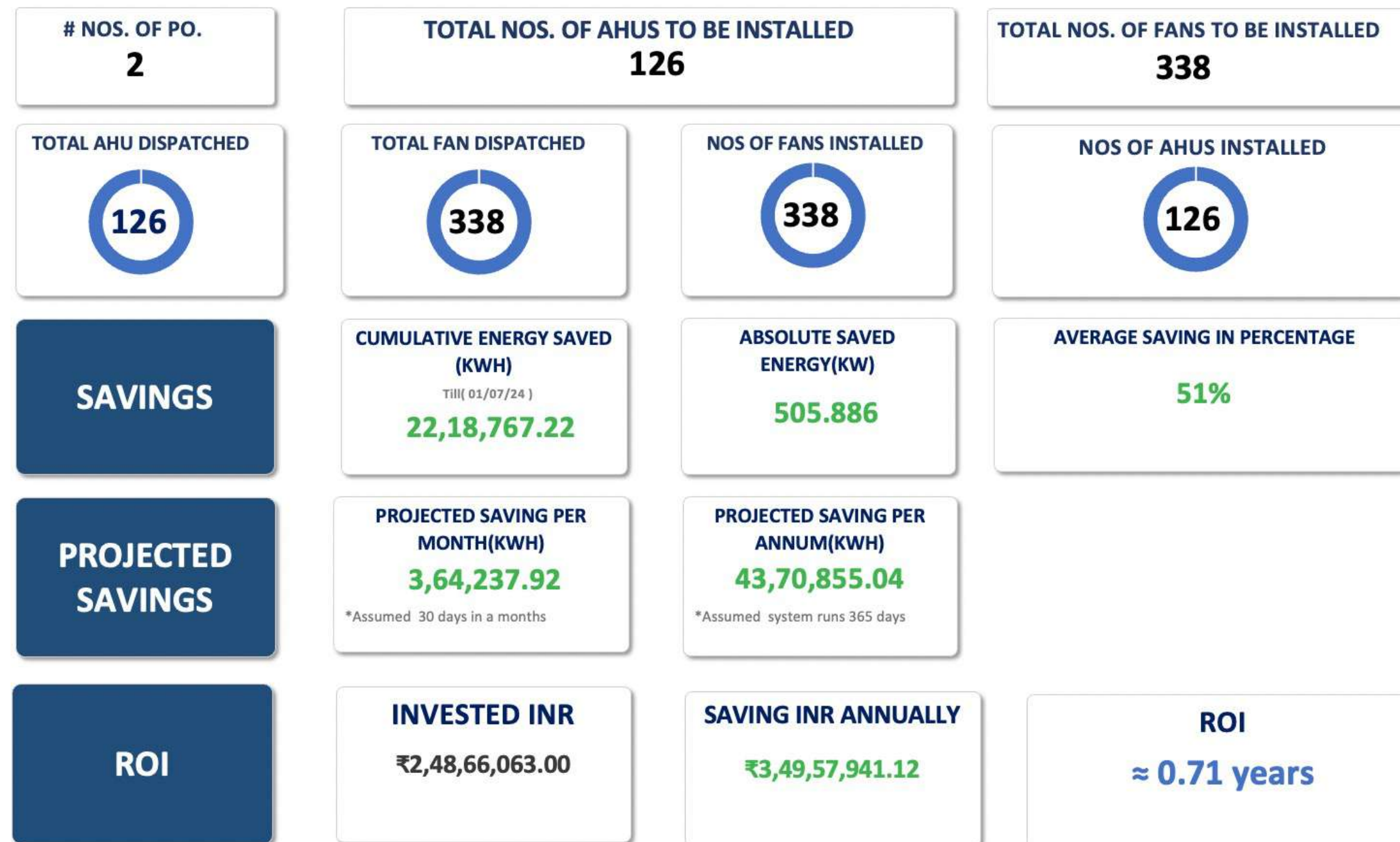


# CORPORATE SOCIAL RESPONSIBILITY



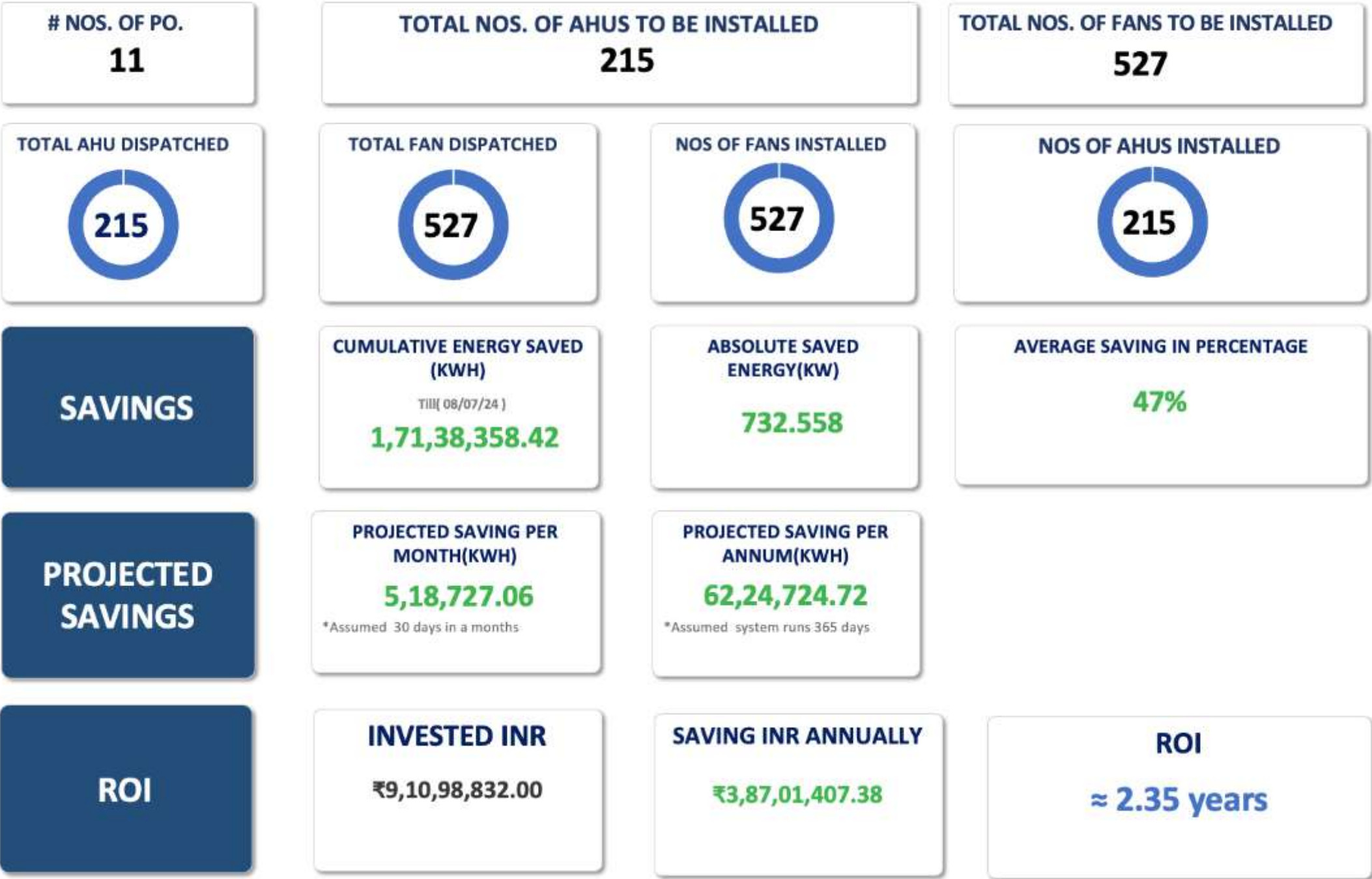


# CASE STUDY: PHARMACEUTICAL

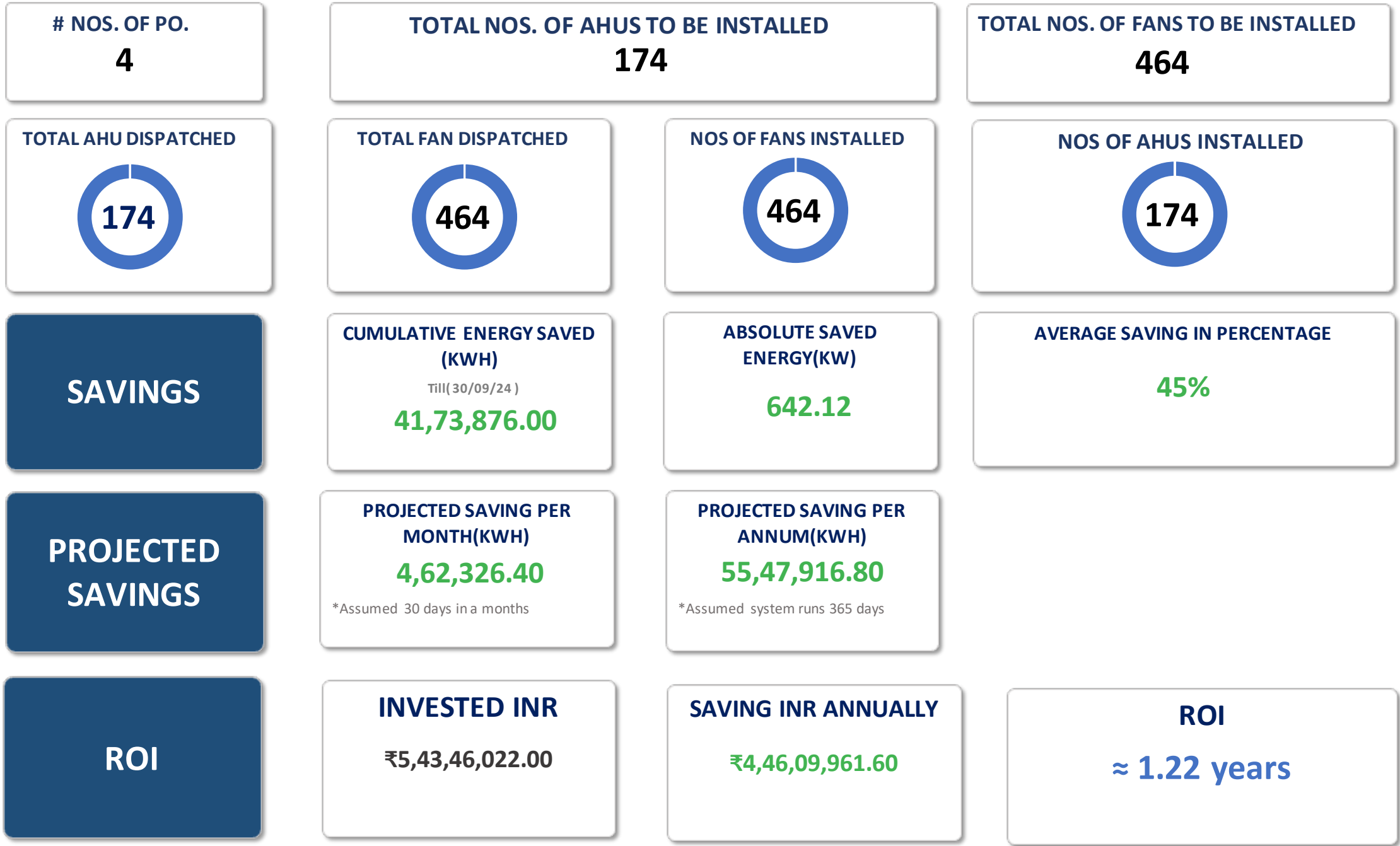




# CASE STUDY: FMCG

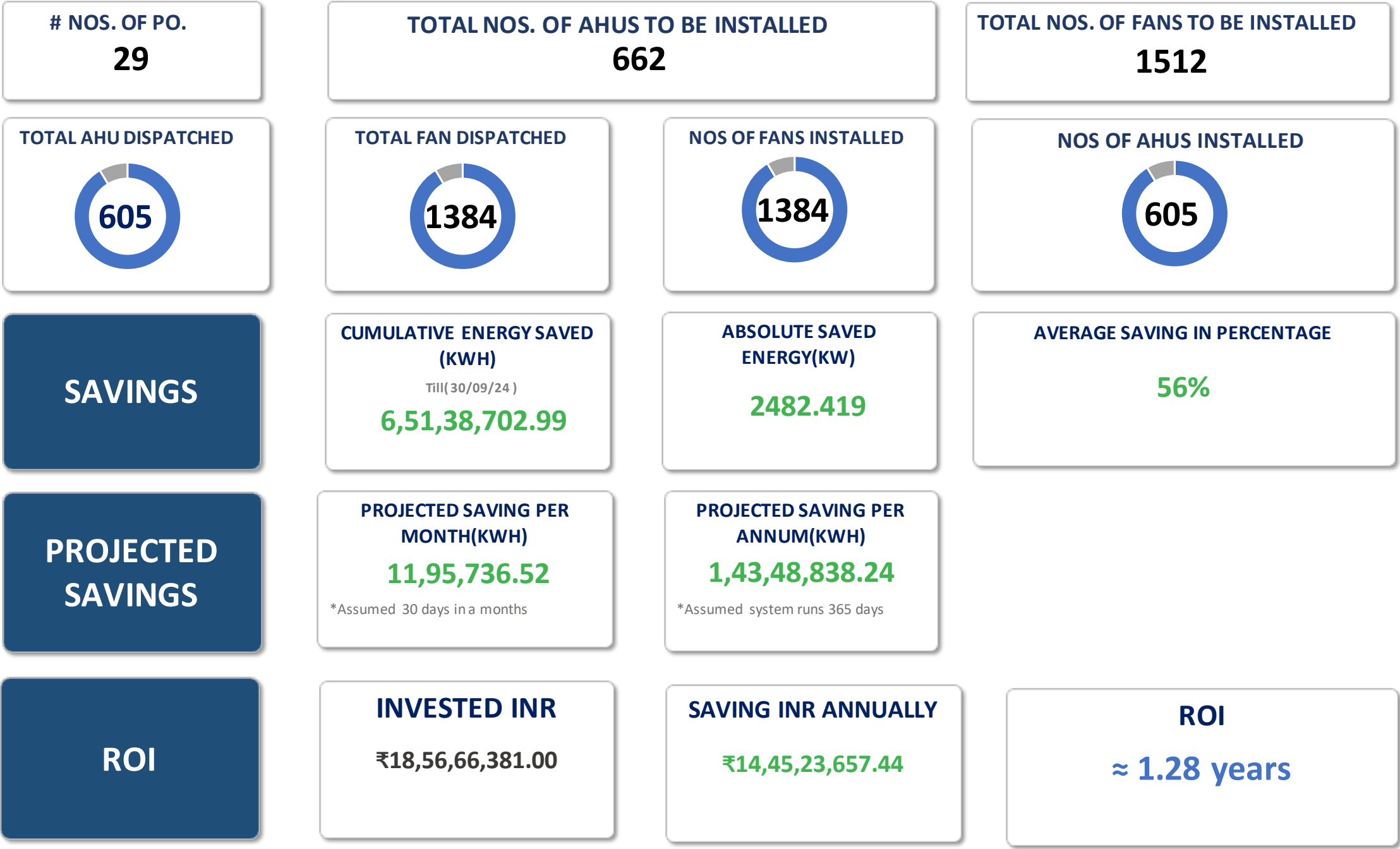


# CASE STUDY: E COMMERCE

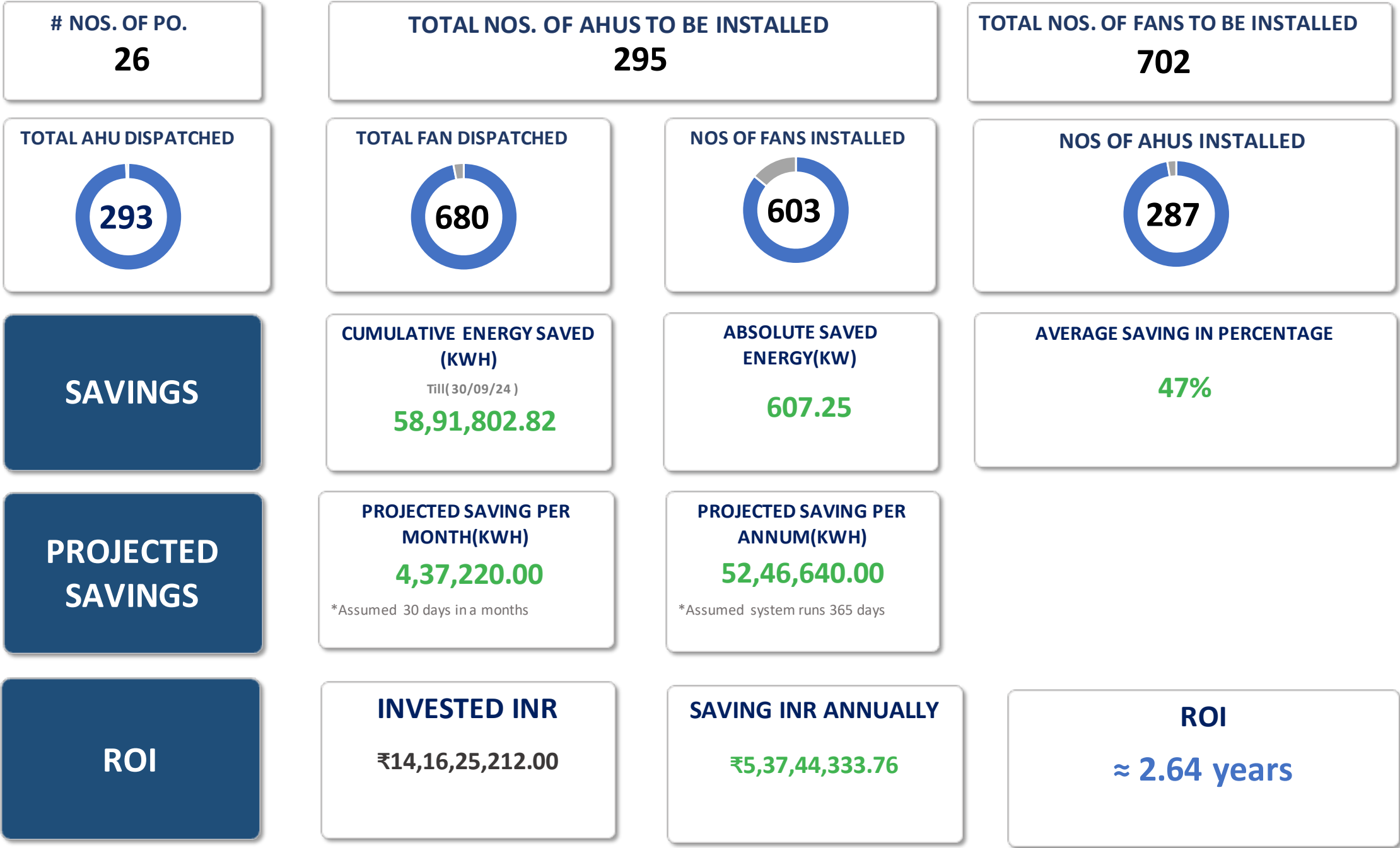




# CASE STUDY: INFORMATION TECHNOLOGY



# CASE STUDY: AUTOMOBILE





# SUMMARY OF BENEFITS



# THANK YOU


## FOR SALES INQUIRIES

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