



CII 22nd National Award for Excellence in Energy Management 2021

Wipro Sarjapur2, Bengaluru

Aswani Kumar Sharma, Senior Manager

About Wipro

Building a bold tomorrow

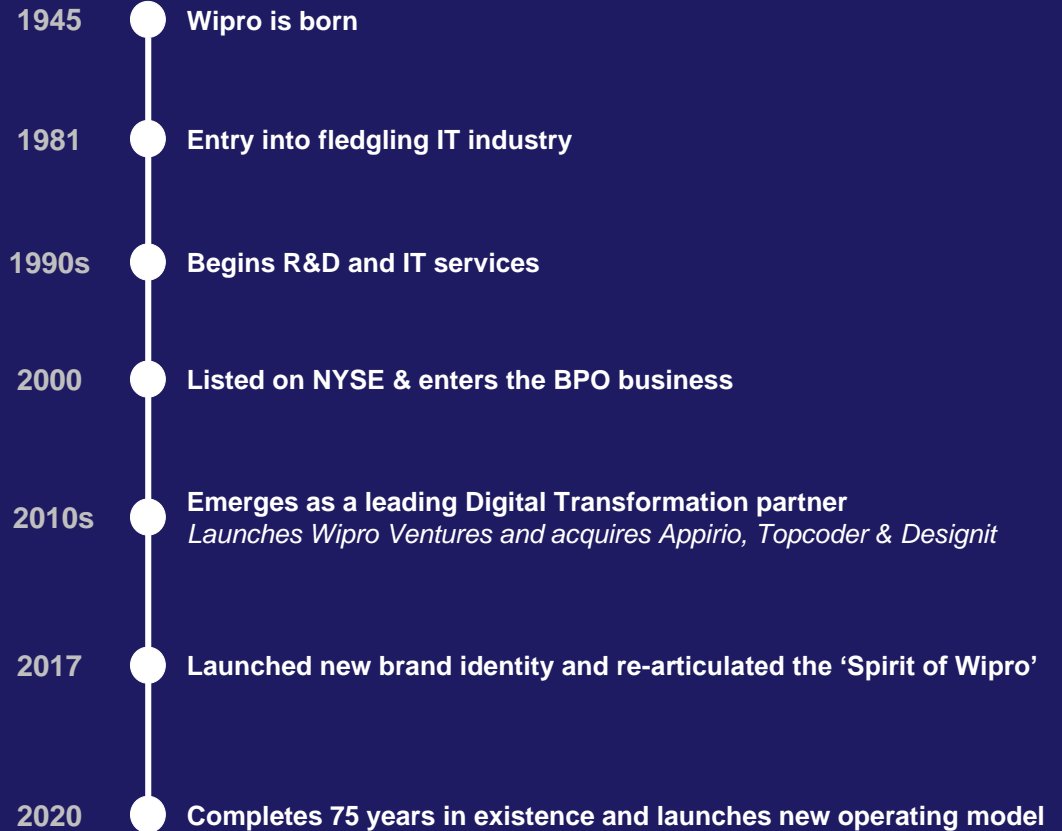
Celebrating our 75th year, we leverage the power of technology with a passionate global talent base to help our customers, communities and planet thrive in the digital world.

We are technologists, engineers, designers, strategists and business partners, sharing a purpose-driven culture and an unwavering commitment to customer success.

Employees > 209,000

FY21 Revenue - \$8.13 Bn

Countries with Employee presence – 66



Sarjapur2 Campus Overview

Wipro Sarjapur-2 (SEZ) campus is a state of art IT Infrastructure located at Doddakannelli, Sarjapur Road, Bangalore, India.

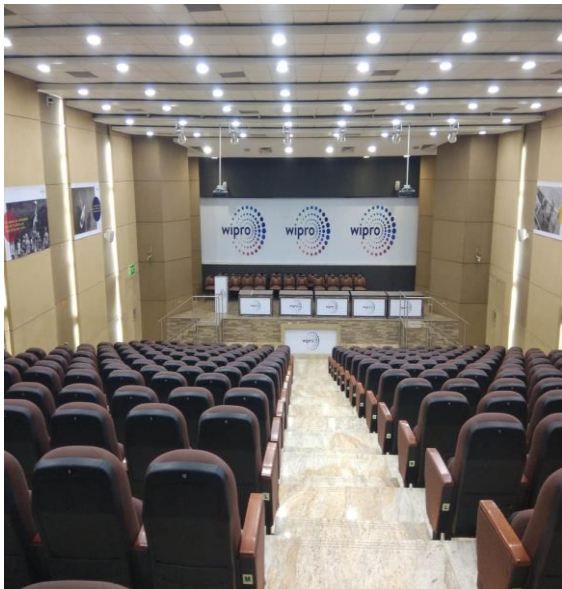
Location is spread over a plot area of 17 acres with lush green landscaping. Total seating capacity is 12,000.

The infrastructure of the office consists of aesthetically designed buildings that includes

- Reception block
- Three (03) Multi-storied towers with Five (05) levels of parking
- Two mini software blocks
- Tarang R&D Testing 1.0 and 2.0 Labs
- Life Science Lab
- Auditorium
- Weather monitoring station
- Global Energy Command Centre (GECC)

Sarjapur2 Campus key Highlights

Auditorium 300 seater



Global Energy Command Center

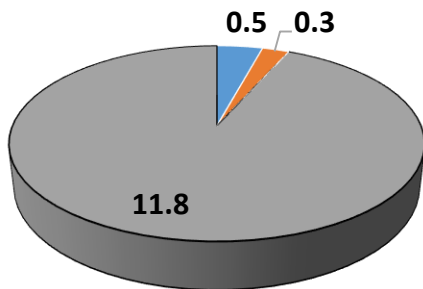


Full stack Weather station



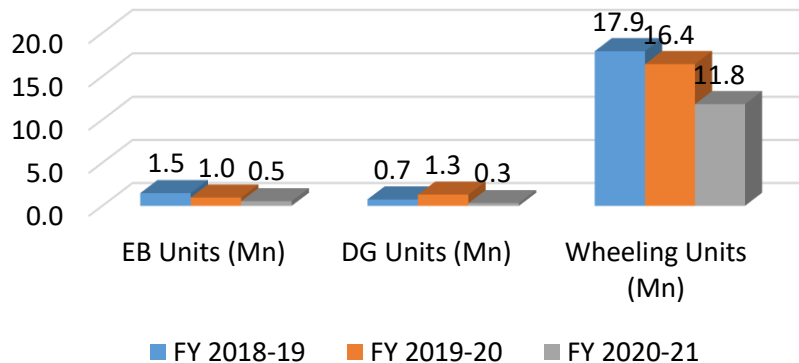
Energy Consumption Overview

ELECTRICITY USAGE FY-2020-21 (MN-UNITS)



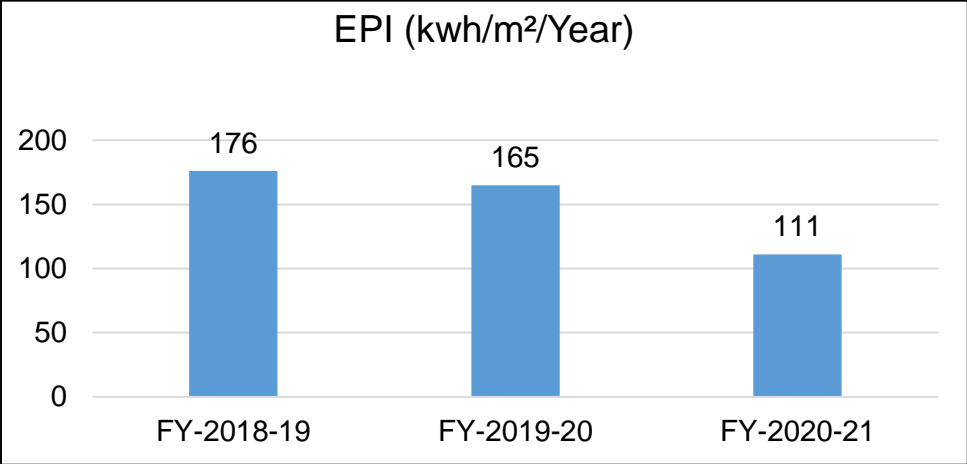
■ EB Units ■ DG Units ■ Wheeling Units

ENERGY COMPARISON 2018-19, 2019-20 & 2020-21



Year	EB Units (Mn.)	DG Units (Mn.)	Wheeling Units (Mn.)	Total in Mn.– kWh/year
FY 2018-19	1.5	0.7	17.9	20.1
FY 2019-20	1.0	1.3	16.4	18.7
FY 2020-21	0.5	0.3	11.8	12.7

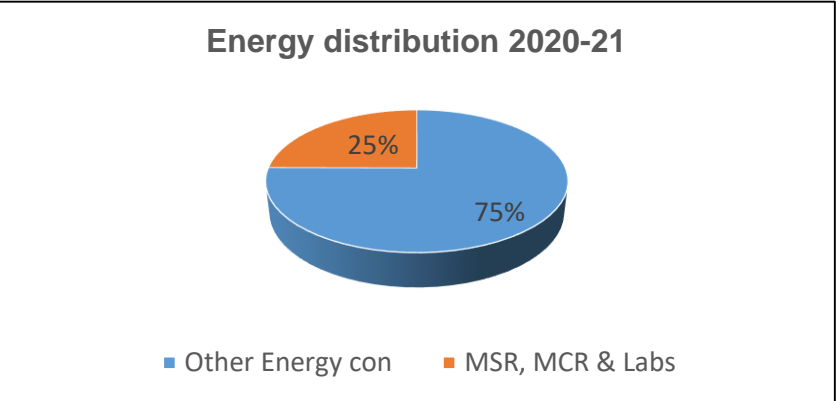
Sp. Energy Consumption in last 3 years (FY 2018-21)



- Reasons for variation**
 Energy Conservation Measures like:
- BMS
 - EC fans
 - PIBCV Energy valves
 - Conversion CFL to LED
 - Reduced occupancy

% Improvement for FY-2020-21 is 32.25

EPI (KWH/sqm/year)	Star label
190-165	1 Star
165-140	2 Star
140-115	3 Star
115-90	4 Star
Below 90	5 Star



National and Global Benchmarking

Benchmarking Details	Reference	SEC (kWh/m ² /Year)	Wipro SJP2 Campus
Other Wipro Campuses	Wipro Annual Report FY2020-21	144	111
Other IT/ITES companies/Group	CII Energy award Programme, Bangalore (2019-20)	90	
National Level	BEE	179	
International Level	Lawrence Berkeley National Laboratory	65 to 90	

Roadmap to achieve national/global benchmark

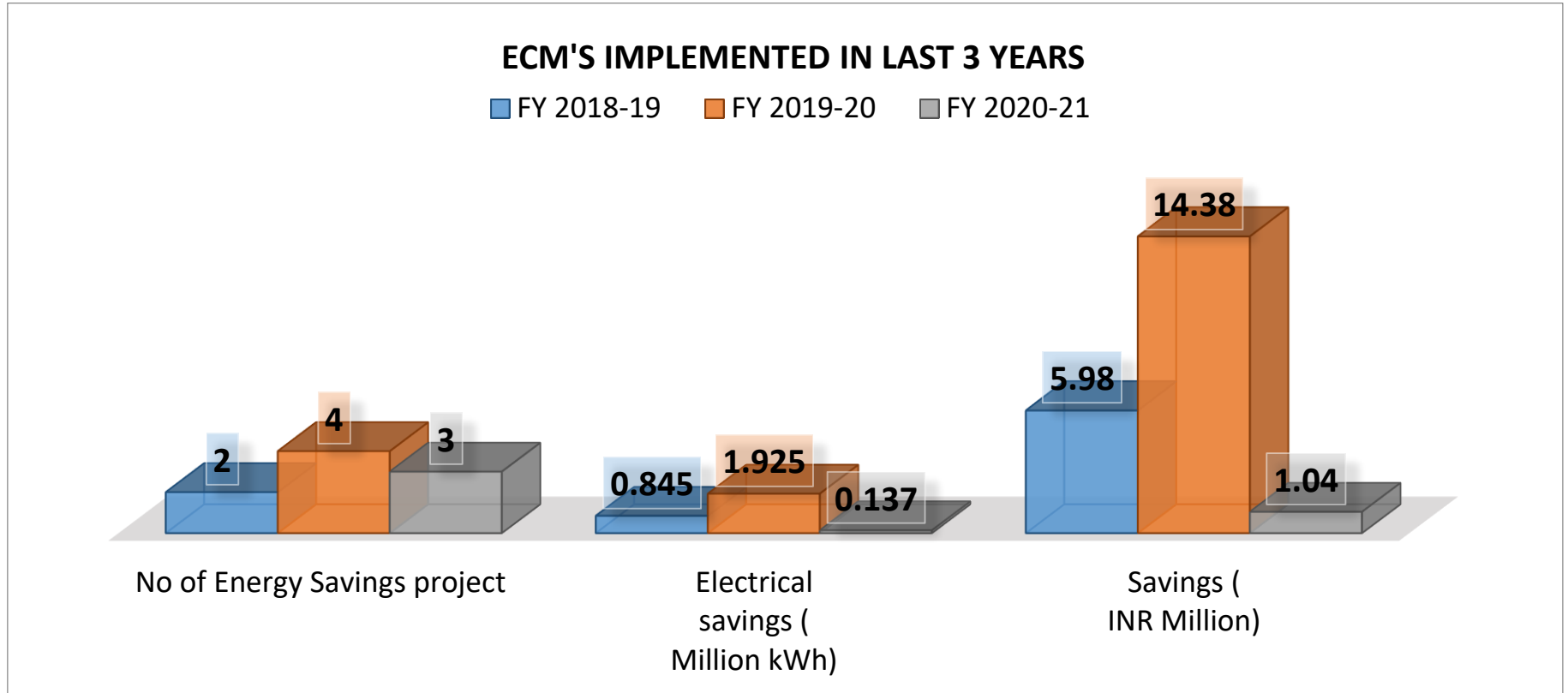
- Replacement of old chillers with advanced magnetic bearing chillers with variable primary pumps and ATCS
- Replacement of old CT's with CTI approved cooling towers
- Replacement of old AC units with efficient VRF units
- STP renovation and automation
- Replacement of hydro pneumatic systems with latest IE3/IE5 motors

Energy Targets

List of Major Encon project planned in FY 2021-22

Year	Title of Project	Annual Electrical Saving (Mn. kWh)	Annual Thermal Saving (Mn. Kcal)	Investment (Rs. in Mn.)	Projected Savings in %
2021-2022	Retrofit of Chiller plant room with advanced magnetic bearing chillers, CTI approved cooling towers, variable primary pumps and ATCS	2.98	2567.64	97.13	50%
2021-2022	Replacement of conventional belt driven blowers and exhaust fans with EC fans	0.34	295.59	11.05	50%
2021-2022	Replacement of EOL APFC panels	0.12	106.14	3.3	04%

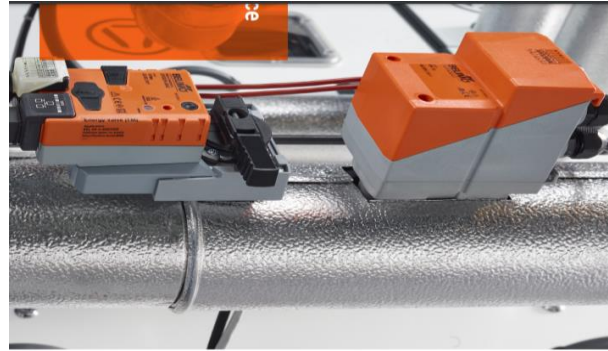
Energy Saving projects implemented in last three years



Innovative Project implemented (EC fan integration with PIBCV energy valve)

A combination of EC fan & PIBCV enhances the energy savings and occupant comfort. We had installed around 192 EC fans across the campus in 2018-19. Gained additional savings in 2020-21 of INR 2.84 Mn after installation of PIBCV Energy valves.

Project details			
Title of Project	Year	Annual Electrical Saving (kWh)	Additional Annual Electrical Cost Saving (INR in Mn)
Installation of PIBCV Energy valves	2020-21	3,81,196	2.84



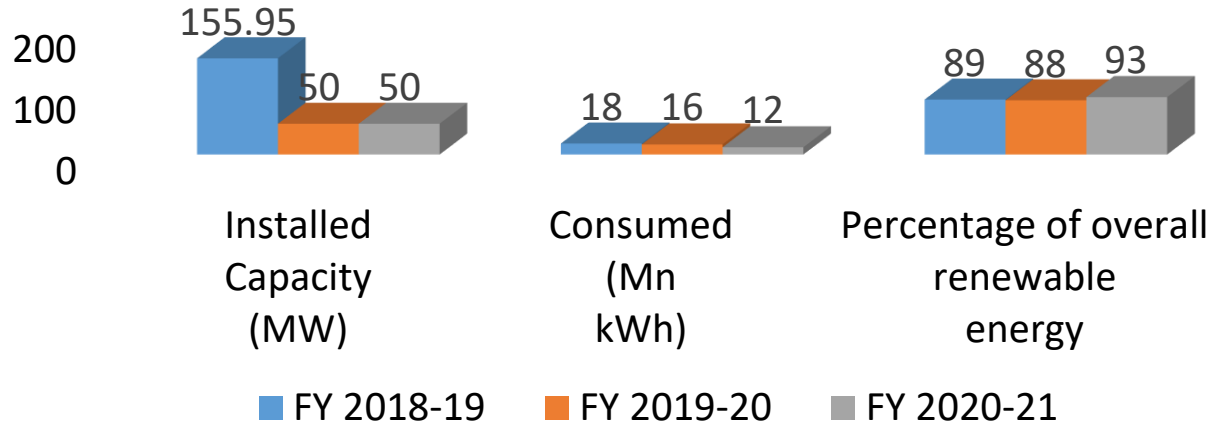
Innovative Project implemented (Cont....)

Impact created by installation of PIBCV energy valves

- **Stable room temperature:** Eliminating the overflow situations at partial load conditions. Has a significant effect on the stability of the room temperature
- **Improved indoor comfort:** With the stable room temperature, the indoor comfort increases. Required temperatures are accurately met, increasing the productivity of office employees or benefitting the experience of hotel guests.
- **Energy savings:** the perfectly balanced system, under all conditions, increases the energy efficiency and leads to savings on energy costs.
- **Reduced maintenance costs:** As the pressure-independent valves ensure perfect working conditions, the actuators mounted on them require fewer movements to keep the temperature stable. This increases the lifetime value of the actuators and reduces the maintenance costs

Utilization of Renewable Energy sources (Wheeling)

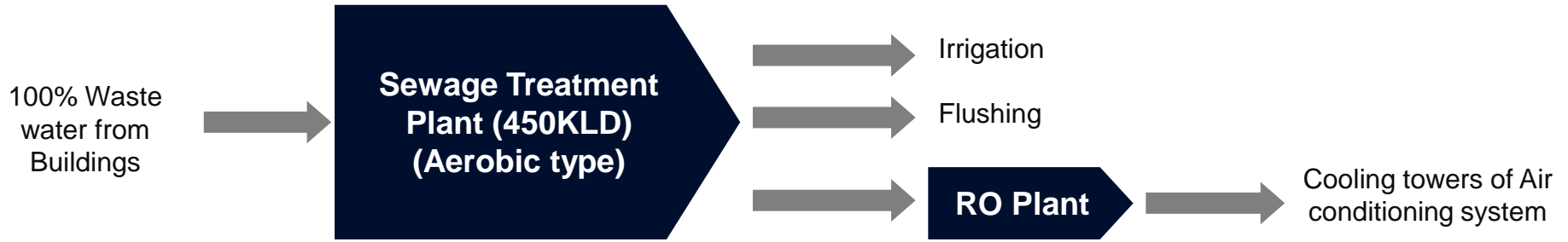
UTILIZATION OF RENEWABLE ENERGY SOURCES



- In addition, we have a 7 KW in-house Solar plant which generates around 8000+ units every year.

Waste Management

Waste Water Management



Waste reduction initiatives

- 1.8 Mn. Liters of ground water recharge by way of ponds are filled with filter media like gravel & sand.
- Plastic waste & dust bin liners stopped in the campus. Bin to bin transfer followed.
- 60 kg/day organic waste composter (OWC) for composting food waste and garden waste
- BIO GAS (BIO-METHANATION PLANT) Plant 1.0TON/DAY using kitchen food waste.
- No PET bottle usage in meetings/conferences

GHG Emissions

Absolute Emission Profile (tons of CO2 eq)

Scope 1

	FY 2018-19	FY 2019-20	FY 2020-21
Fuel & Refrigerant – India Offices	13,424	13,366	10,885

Scope 2

	FY 2018-19	FY 2019-20	FY 2020-21
Purchased Electricity – India Offices and DCs	1,03,866	1,24,564	86,663

Scope 3

	FY 2018-19	FY 2019-20	FY 2020-21
Employee Commute	79,160	84,536	18,055
Business Travel	1,17,819	1,23,789	13,538
Waste	760	274	140
Upstream Fuel+Energy emissions	76,659	72,888	53,937
Purchased goods / services	82,246	1,00,460	2,15,830*
Upstream Leased Assets	24,302	39,580	12,606
Work From Home Emissions			36,230

*Purchased goods and services based on material group and category spend for Tier 1 suppliers.

Data Center Efficiency

	FY 2018-19	FY 2019-20	FY 2020-21
Absolute Energy Consumption of DC's (MWh)	51,31,539	57,32,383*	2,29,00,207
Number of DC's	3	3	5**
PUE	2.23	2.11	1.61

*Contributes to 2.5% of our operational energy consumption. 48.3% of this is from Renewable Energy Sources.

Total Energy Consumption (MWh)

Source Type	Fuel	FY 2018-19	FY 2019-20	FY 2020-21
Renewable	Biogas	88,632	72	0
Non-Renewable	Charcoal	488.93	437	3.4
Non-Renewable	LPG	6807.46	6059	920.5
Non-Renewable - Generated	Diesel for Electricity	5388	5776	2290
Composite - Grid	Purchased Electricity	133049	150076	107080
Renewable - Purchased	Purchased Electricity	91810	73659	64855
Renewable - Generated	Solar Heater	1332	1332	892.5
Renewable - Generated	Solar PV	194	247	278

For further details, Please refer Wipro Annual Report

<https://www.wipro.com/content/dam/nexus/en/investor/annual-reports/2020-2021/integrated-annual-report-2020-21.pdf>

<https://www.wipro.com/content/dam/nexus/en/investor/annual-reports/2020-2021/wipro-esg-dashboard-fy-2020-21.pdf>

Wipro is a founding member of 'Transform to Net Zero': A global alliance to accelerate the transition to a net-zero global economy.

Our Net Zero Commitment: We're committed to contribute to planetary Net-Zero Greenhouse Gas emissions targets by reducing our emissions to zero by 2040 and a 55% reduction by 2030

Read more at [wipro.com/sustainability](https://www.wipro.com/sustainability)

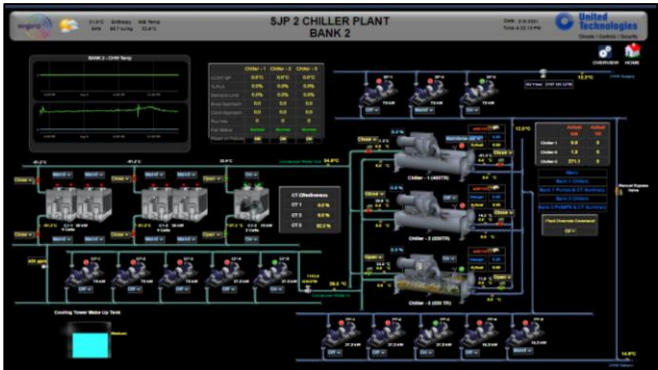
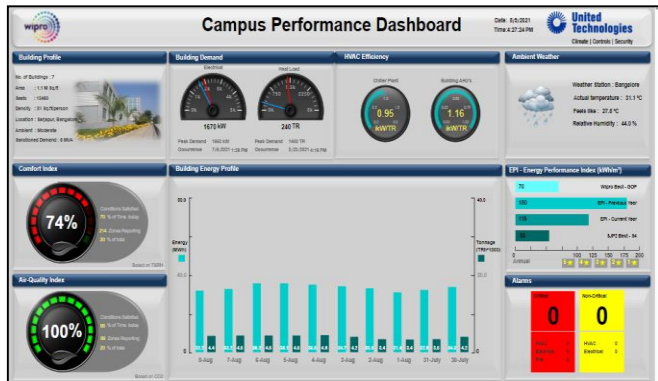
Indoor Air quality

IAQ Parameters monitored on yearly basis:



Teamwork, Employee involvement and Monitoring

BMS System to monitor energy consumption

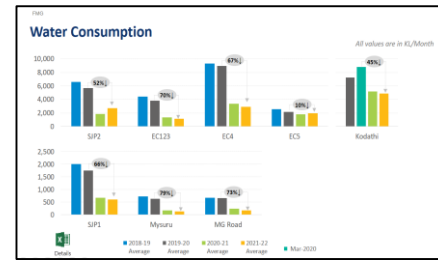
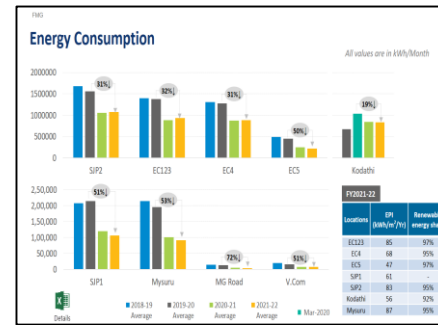


Internal Portal to update energy, water and waste data

Location	Month	Review By	Energy (kWh)	Water (kWh)	Waste (kWh)	Order
Sarjapur 2	May 2021	Review by Location Manager: Aswani Kumar Sharma	57200 kWh	NA	1000000 kWh	NA
Sarjapur 1	May 2021	Review by Location Manager: Joyce Vijay	104850 kWh	NA	0 kWh	NA
Sarjapur 2	Apr 2021	Review by Location Head: Mukta Pant	69200 kWh	NA	1000000 kWh	NA
Sarjapur 1	Apr 2021	Review by Location Manager: Joyce Vijay	110000 kWh	NA	0 kWh	NA
Sarjapur 1	Mar 2021	Review by Location Manager: Joyce Vijay	121750 kWh	NA	0 kWh	NA
Sarjapur 2	Mar 2021	Review by Location Head: Mukta Pant	NA kWh	Bescom_Invoice_1	1000000 kWh	Order_S50027
Sarjapur 1	Feb 2021	Review by Location Manager: Joyce Vijay	93950 kWh	NA	0 kWh	NA
Sarjapur 2	Feb 2021	Review by Location Head: Mukta Pant	32700 kWh	NA	900000 kWh	Order_S50027
Sarjapur 1	Jan 2021	Review by Location Manager: Joyce Vijay	90700 kWh	Bescom_Bill_1a	0 kWh	NA
Sarjapur 2	Jan 2021	Review by Location Head: Mukta Pant	66300 kWh	Bescom_Invoice_1	975000 kWh	NA

Location	Month	Review By	Water (kWh)	Waste (kWh)	Other	Action
Sarjapur 2	May 2021	Review by Location Manager: Aswani Kumar Sharma	2946.6	1568.6	46.77	SHOW
Sarjapur 1	May 2021	Review by Location Manager: Joyce Vijay	570.7	333.67	41.53	SHOW
Sarjapur 2	Apr 2021	Review by Location Manager: Aswani Kumar Sharma	3468.0	1656.6999999999994	52.23	SHOW
Sarjapur 1	Apr 2021	Review by Location Manager: Joyce Vijay	739.5	532.83999999999995	27.95	SHOW
Sarjapur 1	Mar 2021	Review by Location Manager: Joyce Vijay	1083.6	724.2999999999999	33.16	SHOW
Sarjapur 2	Mar 2021	Review by Location Head: Mukta Pant	3479.74	1454.9	58.19	SHOW
Sarjapur 1	Feb 2021	Review by Location Manager: Joyce Vijay	883.5	605.4399999999999	31.47	SHOW
Sarjapur 2	Feb 2021	Review by Location Head: Mukta Pant	2769.87	1483.3	46.45	SHOW
Sarjapur 2	Jan 2021	Review by Location Manager: Aswani Kumar Sharma	1980.91	1478.8	25.35	SHOW
Sarjapur 1	Jan 2021	Review by Location Manager: Joyce Vijay	568.8	428.76999999999998	24.62	SHOW

Monthly review of energy performance



Energy Performance is reviewed on monthly basis by FMG Head – PAN INDIA

Implementation of ISO 50001/Green Co/IGBC rating

- Wipro SJP2 campus is certified for ISO 14001 & ISO 45001. We were in process of implementation of ISO 50001 in FY 2020-21 which got deferred due to pandemic. The same will be implemented once the employees return to work.

Other awards, acknowledgements

Eat Right Campus – Promoting Health and Nutrition, Five Star Campus by FSSAI



CII- SR- EHS Excellence Award 2020, Five Star Campus by CII



Other awards, acknowledgements

“Best Ornamental Garden 2019 (Corporate)” received for Sarjapur for 9 consecutive years.

Noble contribution for the ongoing relief campaign against COVID-19.



Yi
Young Indians
WE CAN WE WILL



CII
Confederation of Indian Industry
125 Years - Since 1895

CERTIFICATE OF APPRECIATION

This certificate awarded to



We thank you for your generous contribution & efforts in helping & supporting CII Yi Covid19 relief and rehabilitation initiatives.

M. Sangeetha

SANGEETHA M
Chair
Young Indians
Bengaluru Chapter

Neelish Reddy

NEELISH REDDY
Co-Chair
Young Indians
Bengaluru Chapter

Wipro won the 2020 EPEAT Purchaser award for positively impacting the environment by procuring sustainable IT products



2020 EPEAT Purchaser Award Winner
www.greenelectronicscouncil.org

Wipro Limited

Total lifetime impact reductions and cost savings over the lifetime of **109,010** EPEAT-registered products purchased in 2019

COST SAVINGS IN THE AMOUNT OF **\$2,477,130**

- Wipro adopted EPEAT standard from Green Electronic Council for its hardware procurement

ENVIRONMENTAL IMPACT REDUCTION ▾

EQUIVALENT TO ▾

GHG Reduction

15,566

metric tons of CO₂ equivalents



Taking **3,333** average US passenger cars off the road for a year



Energy Savings

25,967

MWh



The annual electricity consumption of **2,138** average US households



Hazardous Waste

68

metric tons



The weight of **560** refrigerators



Solid Waste

246

metric tons



Annual waste generation of **132** average US households



Primary Materials

8,093

metric tons



The weight of **1,556** elephants



Water Consumption*

4,990,131

liters of H₂O



Enough water to fill **2** Olympic sized swimming pools



Key Highlights



Yulu Bike: Technology-driven green mobility



Electric Vehicles for employee commute



Heat pumps for kitchens



Automation of Dispenser-Push to Communicate (PTC)



Portable descaling kit for AHU



Pump room fire panel alarm system

Key Highlights (Cont....)

Pandemic preparations at site team



Foot & sensor operated taps for wash basins



Touchless soap dispensers



Foot operated pedal hand sanitizer type-1



Foot operated pedal hand sanitizer type-2



Foot operated pedal hand sanitizer type-3



Foot operated door opener/closure



Innovative in-house project

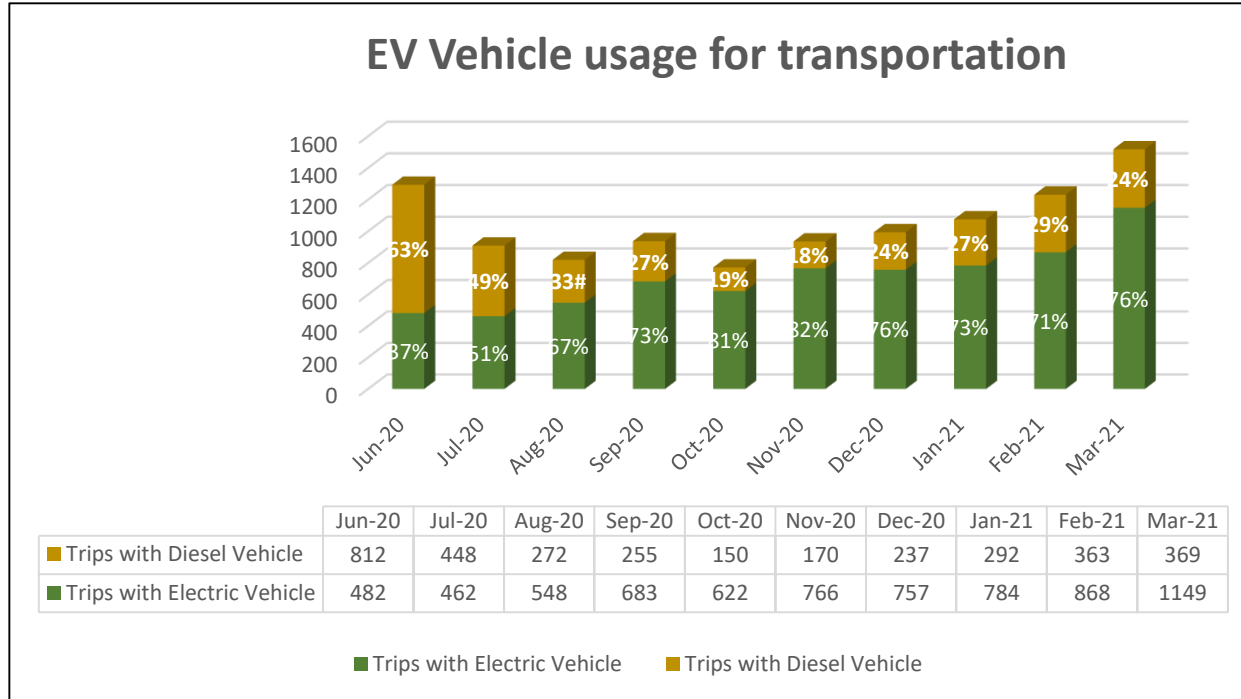
Project details: Pedestrian smart traffic alert system

- We identified a blind spot at vehicle and pedestrian crossing inside the vehicle parking at the ground floor which could result in near miss or an accident.
- Team innovated sensor based alert system which alerts the pedestrian whenever a vehicle approach the crossing.
- Alert system has a traffic signal board with RED & GREEN Lights and an announcement system to alert pedestrians.



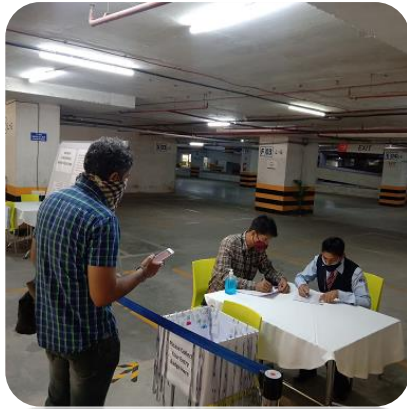
EV Vehicle usage for employee commute

We introduced Electric Vehicles for employee commute in Sarjapur2 campus in Nov 2019. More than 80% of the trips are through EV vehicles now.



Campus Initiatives

VACCINATION CAMP



Employee registration



Waiting zone with social distance



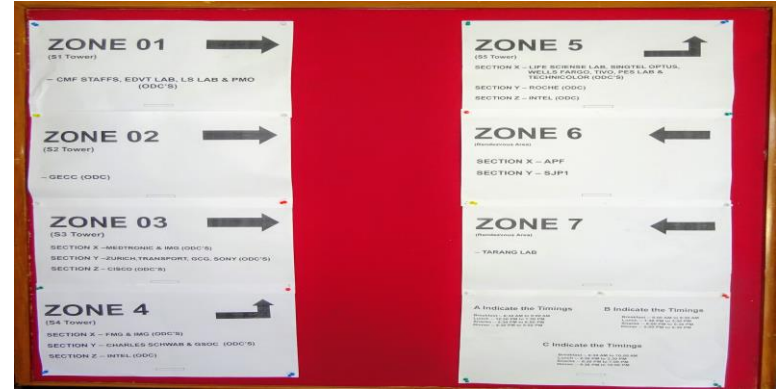
CoWIN app registration



Vaccination booth

Campus Initiatives (Cont....)

Zoning at Cafeteria



Wealth out of waste initiatives



Covid-19 awareness signs



Vertical garden



Fish pond



Garden with Seating Arrangements



Employee sit out area



Mini Fountain



Thank you

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