



**A REPORT ON THE  
TRANSFORMATION OF  
CLEANING OPERATIONS  
AT A LEADING MNC IN  
INDIA**



## Abstract

In June 2019, SmartClean was engaged by JLL to implement the SmartToilet+ Solution at this company in Bengaluru as a proof-of-concept project. Basis on the results of the POC, JLL and this company would decide on the upscaling of the solution across all of their properties across India.

The report discusses how the key metrics of Manpower Savings, Workforce Productivity, Resource Management, and User Experience were redefined at the premises through the adoption of a *predictive and on-demand* cleaning approach.

## Introduction

This company is one of the largest IT Services organizations in the world, with multiple development centers across all major Indian cities. These development centers are effectively operational 24\*7 and its facilities are used around the clock.

JLL manages the all of their properties and facilities across India. To evaluate and showcase the efficiency and benefits of SmartToilet+, JLL, SmartClean and this company chose one tower as the ideal site for the POC as it is one the busiest development centers for them.

It is a 10-story tower in the office complex in Mahadevpura, Bengaluru. The tower has 32 toilets that was being serviced by a cleaning workforce of 22 janitors.

In September 2019, they began the transition from *Scheduled* to *On-Demand & Need-Based* cleaning for their facility.

This transition involved the installation of SmartClean's proprietary solution, SmartToilet+, as a part of the roll-out, which was completed by October 2019.

SmartClean's customer success team worked along with JLL's on-site facility management team to understand the operations better and to find improvement areas. During the initial one month, a base case scenario was established by monitoring the alerts and user feedback after installation and configuration of SmartToilet+ across all 32 toilets. In November 2019, the cleaning operations switched from the *Scheduled* approach of cleaning to SmartClean's *On-Demand* approach to cleaning

**This tower was selected as the site for the POC for adoption of SmartClean's solutions**

## Key Challenge 1

### Large Workforce and High No. of Spot-Checks

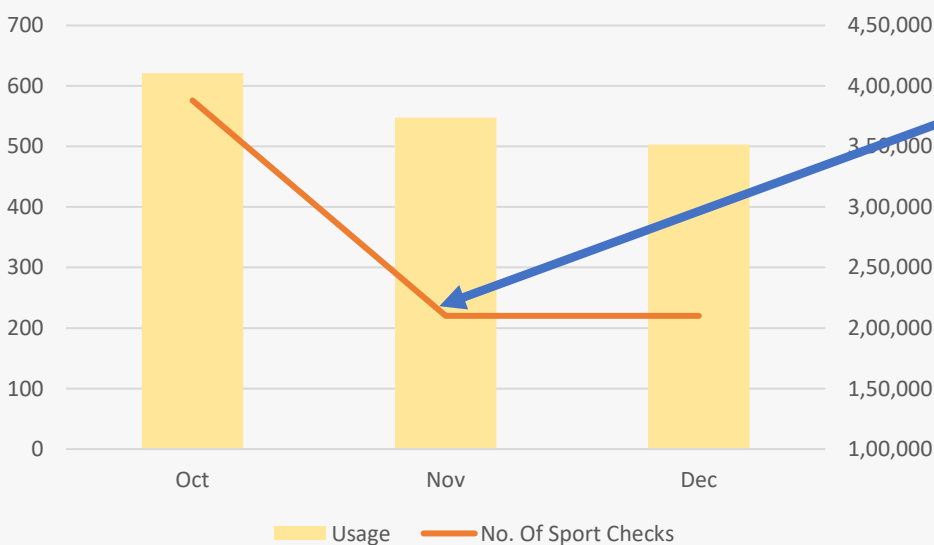
22 janitors were deployed across 32 toilets. By following a *Scheduled* approach, each toilet was being visited 18 times a day, which meant there were **576 visits** being made by the janitors merely to spot-check and identify if cleaning was needed.

## Solution 1

### Optimized Cleaning Hours And Reduced Manpower Costs

After transitioning to *On-Demand* cleaning, the janitors were only required to visit washrooms for alerts generated and top-down cleaning.

This led to a **decrease of over 60%** in the no of workman hours required as the number of **spot-checks reduced to ~220** – thus, giving the FM team room to reduce the workforce. In Nov 2019, **reduced the no. of janitors from 22 to 18**, while the usage of toilets remained largely the same



After transition to **On-Demand** cleaning, usage of toilets remained high but no. of **spot-checks** reduced as the janitors only needed to visit the toilets when alerts were generated

**Reduction of required no. of spot-checks by 60% led to reduction of number of janitors by 4**

## Key Challenge 2

### No Record of User Feedback

Before the installation of SmartToilet+, user feedback was not recorded here.

This led to a **compromised user experience** as their complaints were neither recorded nor addressed.

During the base-case analysis, user feedback was recorded from **October to November 2019** to understand the user experience before the shift in cleaning methodologies.

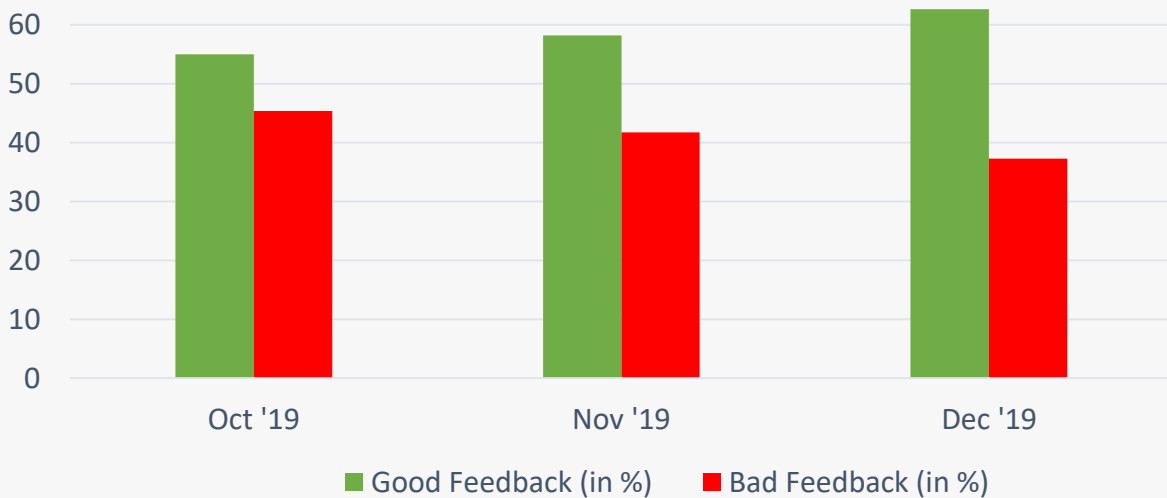
## Solution 2

### Better User Feedback and Improved User Experience

Once the transition to *On-Demand Cleaning* was made, the user experienced increased significantly.

Even though the usage of the toilets did not change significantly, there was an impressive change in the Good Feedback and the Bad Feedback.

	During Base-Case Scenario	After transition to On-Demand Cleaning
Good Feedback (%)	45	55
Bad Feedback (%)	55	65



10% increase in positive user experience

## Key Challenge 3

### No Alerting System

Before the installation of SmartClean+, issues in the toilet were identified only during spot checks. There was no real-time capturing of issues and the identification of issues was done manually through spot-checks.

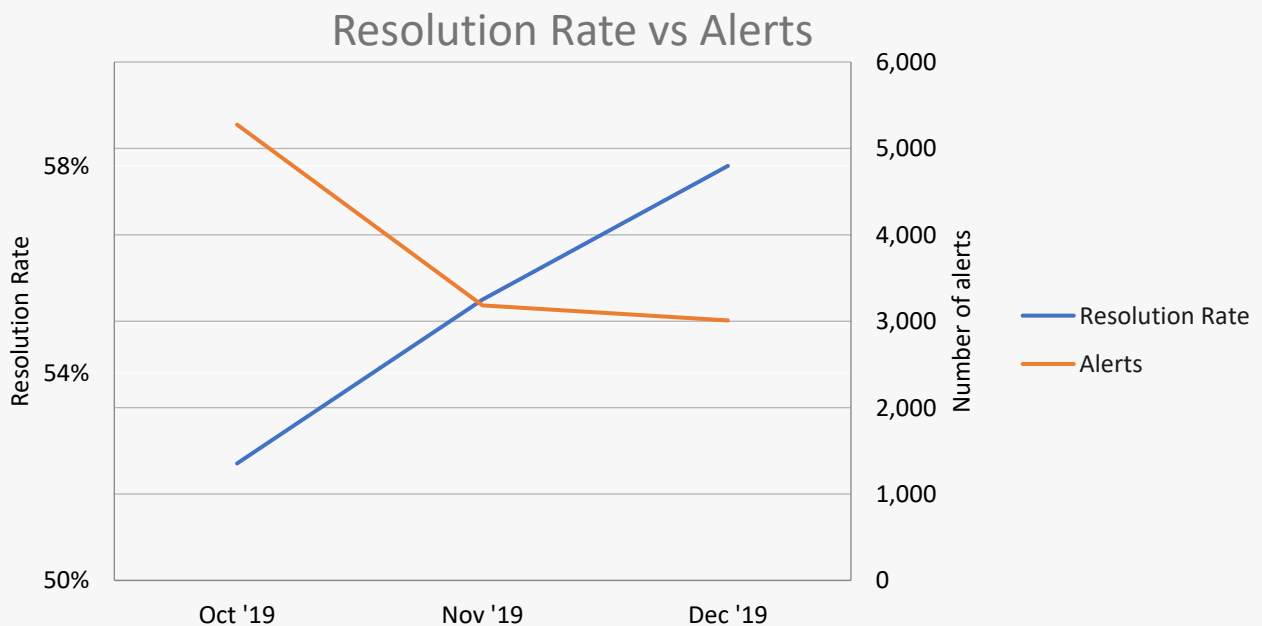
In October 2019, while the cleaning workforce was still following the *Scheduled Approach*, the alerts generated by SmartToilet+ were captured along with the resolution of the issues that triggered the alerts.

## Solution 3

### Alert Driven Cleaning with High Resolution Rates

After the cleaning workforce was redeployed as per the recommendation of SmartClean, the alerts reduced drastically, and the resolution rate of the alerts increased while the usage of the toilets remained largely unchanged.

	Oct	Nov	Dec
Alerts	5276	3185	3009
Resolution Rate (in %)	52	55	58
Toilet Usage ('000)	410	373	352



The significant reduction in alerts reflects the improvement in quality of cleaning and the increased productivity of the janitors

## Conclusion

SmartClean, through its SmartToilet+ solution transformed the cleaning operations at this MNC using a data driven approach in a systematic and phased manner.

SmartClean and the JLL's Facility Management Team at this facility worked together to train the cleaning workforce at the site to transition to SmartClean's methodology of On-Demand cleaning. After the training of the team and reducing the cleaning workforce by 4, following were the key outcomes:

1

20% increase in manpower savings

2

10% increase in positive user feedback

3

42% reduction in alerts reflecting the improvement in cleaning quality

### Positive ROI, Improved Service Quality:

Average Cleaner Salary = SGD 369.2

SmartClean Solution Subscription Cost = SGD 44.35/month/toilet

Total Cost for SmartClean's Solution = SGD 44.35 x 32 toilets  
= INR 1419.3

During Pilot stage they optimized the number of Cleaners from 22 to 18, resulting in a net saving of 4%.



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SmartClean is an end-to-end IoT & AI based solution, bringing intelligence to facilities with connected sensors and intelligent algorithms, enabling data-driven cleaning operations for increased productivity and improved service quality.



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