CLEANING OPERATIONS AT MNC 2, SINGAPORE

SmartClean

Abstract

In October 2019, SmartClean was engaged by this MNC to implement the SmartToilet+ Solution .

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

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Introduction

This is a Singapore based office and retail premises located at One-North Business Park. It is a 34-storied facility, covering 30 hectares of retail and office space. The scope was to introduce SmartToilet+ at the facility.

The facility has 58 toilets and a cleaning force of 6 cleaners deployed across the property. On an average, the Cleaners performed 450 spot checks in a ten-hour shift. As a result of following a *Scheduled Cleaning* approach, the cleaning staff spent 25-30 Hrs. everyday on spot-checking alone.

In October 2019, they began the transition from *Scheduled & Reactive* 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 .

SmartClean's customer success team worked along with their facility management team to understand the operations better and worked together to find improvement areas. Based on the existing operations and the data collected over a period of 3 months, the team developed a phase-wise implementation plan to transform the cleaning operations to focus on higher productivity and improved customer experience.

They made a transition from Scheduled & Reactive Cleaning to On-Demand & Need-Based Cleaning

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Key Challenge 1

Unbalanced Distribution of Manpower

They had 6 cleaners who were assigned across the premises based on number of washrooms. This resulted in the same amount of cleaning operations deployed for low use and high usage washrooms

On average, 55% of the alerts were from Zone 1, while Zone 2 and Zone 3 attributed to 28% and 17% of the alerts, respectively
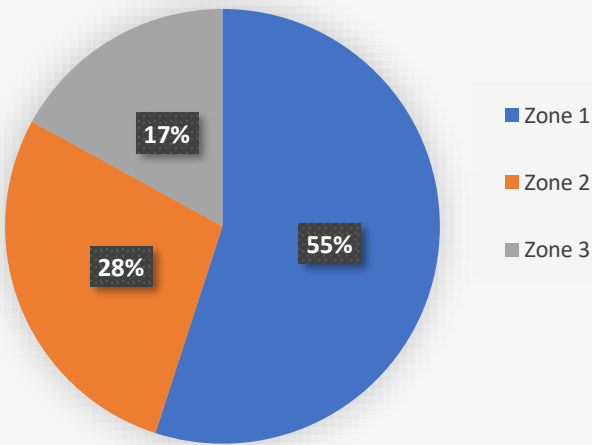
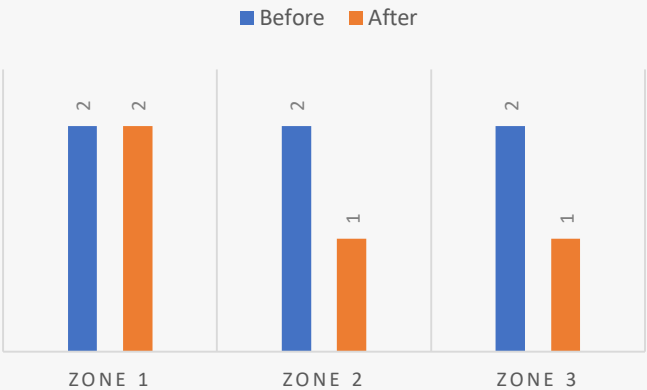## Solution 1

Redeployment of Manpower

Based on the usage pattern, sub zones were created, and manpower re-deployment was done for the property on **10th of December**

Zones	Before	After
Zone 1	2	2
Zone 2	2	1
Zone 3	2	1

Percentage of Alerts

Redeployment of cleaners

Equitable Distribution of work-load after redeployment on 10th December 2019

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Key Challenge 2

50% of the time spent on spot checks

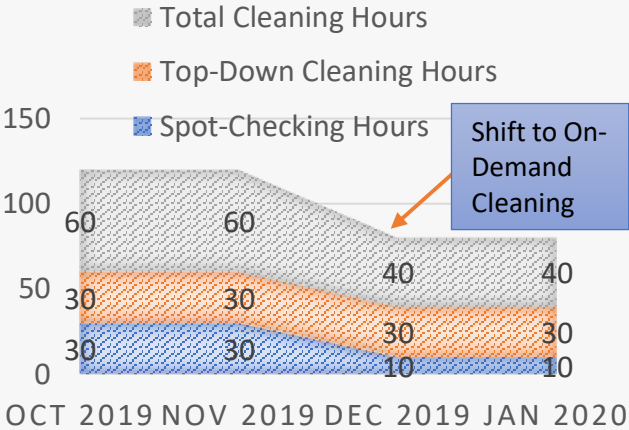Due to the scheduled nature of operations 30 hours a day were spent by the cleaning staff on spot-checks

Due to the large number of hours being spent on spot-checking, quality of overall cleaning was getting impacted and there was a redundancy in terms of the no. of cleaners deployed across zones.

Solution 2

100% shift to On-demand cleaning

Moving from scheduled to *on-demand* cleaning from **10th of December**, the number of spot-checks reduced substantially to around 65 per day. This resulted in a reduction of the amount of time spent on cleaning from 60 hours to 40 hours daily.

	Scheduled Cleaning	On-Demand Cleaning
Time Spent on Spot-Checks	30 Hours	10 Hours
Time Spent on Top-Down Cleaning	30 Hours	30 Hours
Total Time Spent by Cleaners	**60 Hours**	**40 Hours**

Total Cleaning Hours
Top-Down Cleaning Hours
Spot-Checking Hours

Shift to On-Demand Cleaning

150
100
50
0

60   60
30   30   40   40
30   30   30   30
         10   10

OCT 2019   NOV 2019   DEC 2019   JAN 2020

More time for actual cleaning than spot-checks

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Key Challenge 3
### Information gap & Slow reaction time

Before the adoption of SmartClean's *Predictive Cleaning* approach, issues in the toilet were identified only during spot checks. Moreover, user complaints and feedback were neither captured nor addressed proactively –resulting in **Poor user experience**
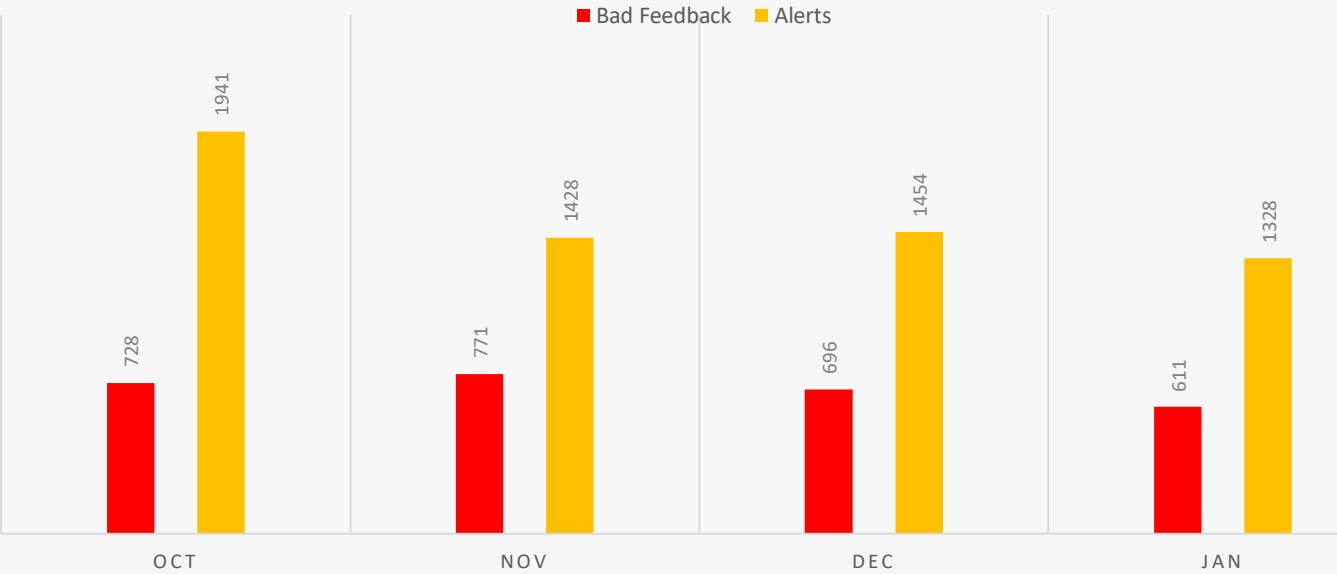
Solution 3
Predictive Cleaning & Realtime user Feedback

As a result of transitioning to the SmartToilet+ solution, the hygiene levels at the toilets improved. A testament to the improvement in quality is reflected by the following metrics:

Resolution Rate (in %)
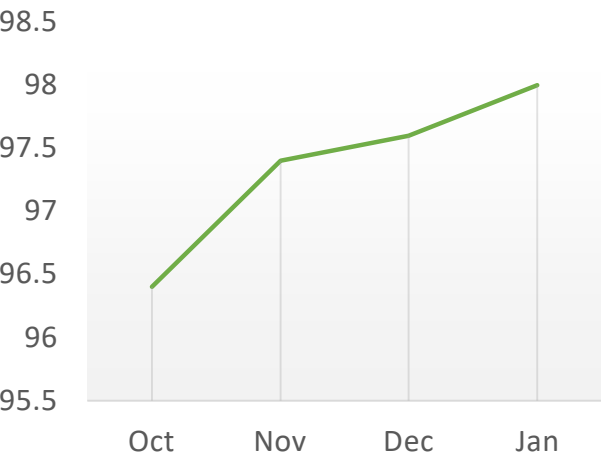
	Oct	Nov	Dec	Jan
Bad Feedback	728	771	696	611
Alerts	1941	1428	1454	1328
Resolution Rate (in %)	96.4	97.4	97.6	98

■ Bad Feedback ■ Alerts

OCT	728 / 1941
NOV	771 / 1428
DEC	696 / 1454
JAN	611 / 1328

The complete transition to On-Demand cleaning led to a reduction in Bad Feedback by 14% and in Alerts by 25%

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Conclusion

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

In the initial two months, post the implementation of the SmartToilet+ infrastructure, a base-case analysis of the cleaning operations at Fusionopolis was done to identify the key challenges and areas of improvement.

SmartClean and the Facility Management Team at the facility worked together to train the cleaning workforce at the site to transition to SmartClean's methodology of On-Demand cleaning. As a result, following were the key outcomes:

1	33% Higher manpower productivity

2	Over 20% increase in manpower savings

3	14% increase in user satisfaction

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Bringing the cleanliness of personal spaces to shared spaces

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.

HQ in Singapore

Founded in 2017

Operations in Singapore, India, Indonesia & Malaysia

Transforming the way properties are cleaned today!

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