

# Smart Safety – Using Industry 4.0 solutions



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These companies were among the top 10 companies even 100 years back !!

DuPont

Cadbury

Colgate

Nestle

Coca Cola

Philips

Pepsico

.....

# Presentation Flow...

- HCCBPL – An Overview
- Digitalisation in safety health and environment &
- Initiatives & Best Practices

# HCCBPL – An Overview



# Hindustan Coca Cola Beverages Pvt Ltd

We are...

- ▶ Volumes more than half a billion Unit Case (6<sup>th</sup> largest bottler in the world) and NSR of ~1150 MM US\$
- ▶ Employ ~9K associates
- ▶ Customer base of ~2.2 MM outlets
- ▶ 18 owned Production facilities and 9 Co-packs; comprising 80 lines – installed NARTD capacity of ~36000 BPM
- ▶ Largest NARTD beverage player in India with 47% share



# Application of Industry 4.0 Solutions

# Today's industry expectations

## As Is Scenario

- Non standard processes and system
- High operational cost
- Too many customization by plants / units
- Non consistency in performance measurement
- Too many manual interventions
- Non standard user interfaces

## To be scenario

- Standardized work processed
- Seamless data flow
- Standard reports
- User friendly
- One touch change
- Better visibility

# Industry 4.0 outlook

Industry 4.0 is transforming the manufacturing sector. Also called as smart manufacturing, it focusses on end-to-end digitization of all physical assets and integration into digital ecosystems.

It digitizes and integrates processes vertically across the entire organization, from product development and purchasing, through manufacturing logistics and service

## Productivity Improvements

- Maximize asset utilization and minimize downtime
- Driving direct and indirect labor efficiency
- Ensure schedule and plan for accuracy

## Risk reduction

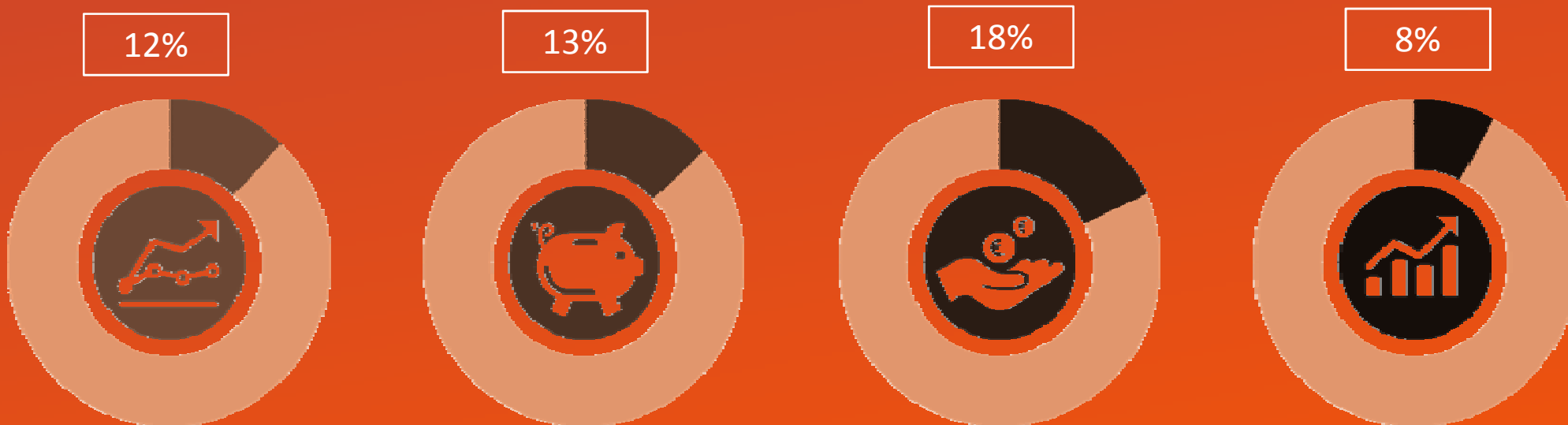
- Manage raw material prices and availability
- Managing warranty and recalls effectively

## Increase Revenues

- Finding sources of growth
- Strengthen customer integration and challenge
- Consumer insights



# Expected Cumulative benefits from digitization in the next 5 years...



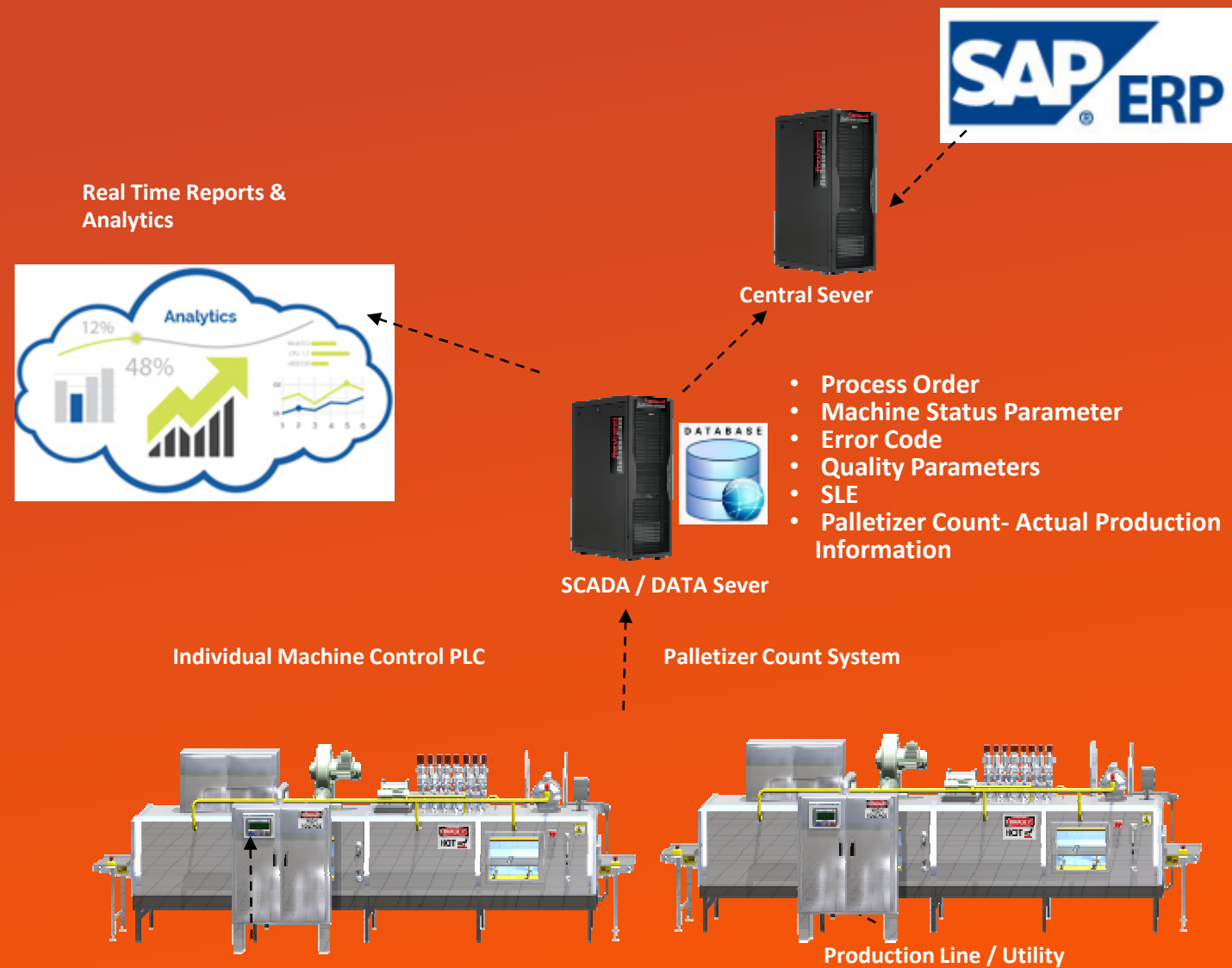
On efficiency gains

On lowering costs

On additional revenues

On gaining market share

# SCADA system: Progressing towards SMART factory...



## Actionable Information at all levels

### Management

- Automated data acquisition – no manual input is required
- Actual data – no conflicts
- Performance Analysis

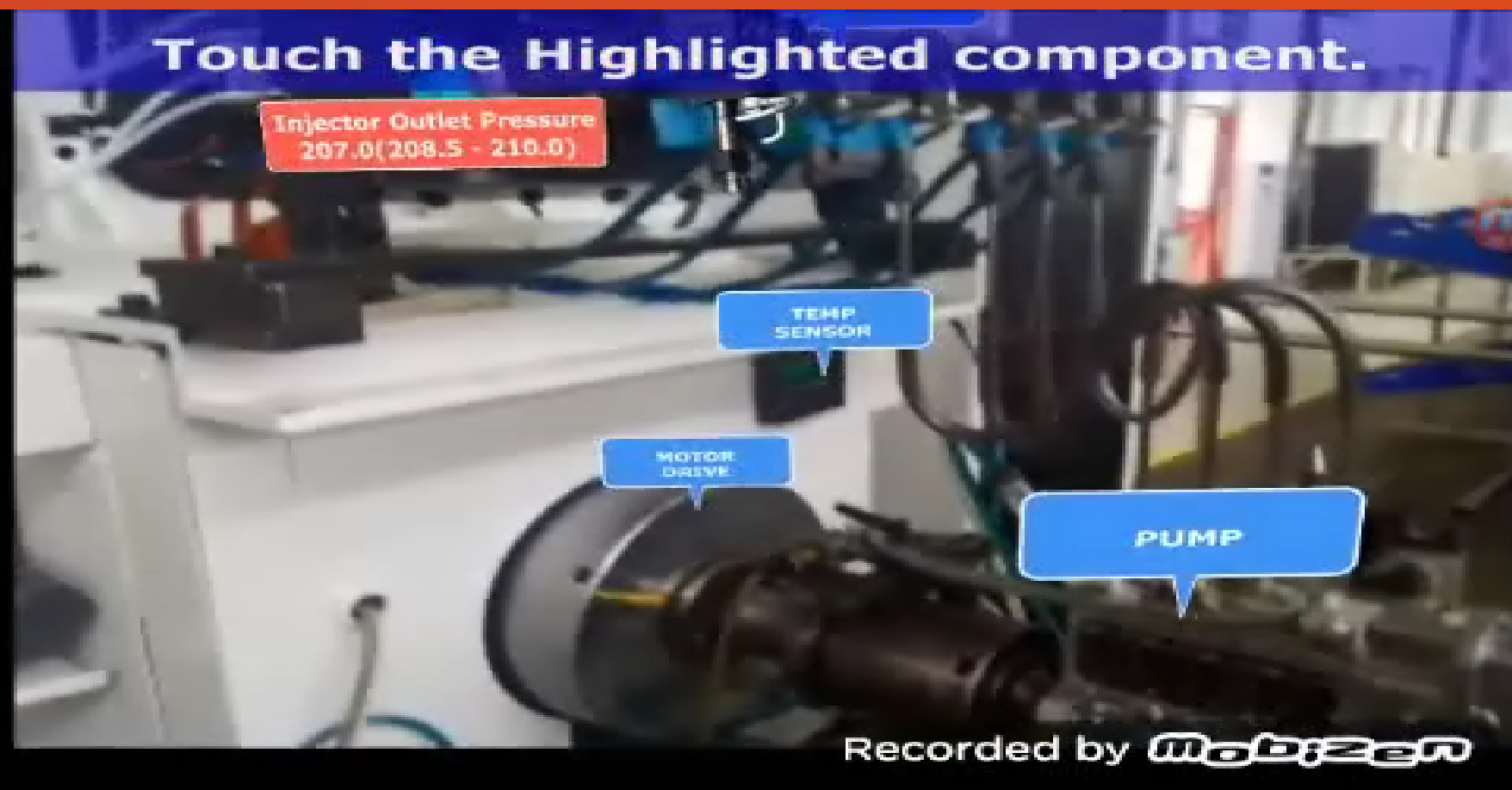
### Maintenance

- Preventive Maintenance
- Loss structure, MTTR, MTBF , efficiency & Downtime details
- Identification of bottlenecks & control issues

### Operations

- Produced counts against targets
- Machine / Line real time status
- Operational KPI's

Augmented by AR based technology for autonomous maintenance...

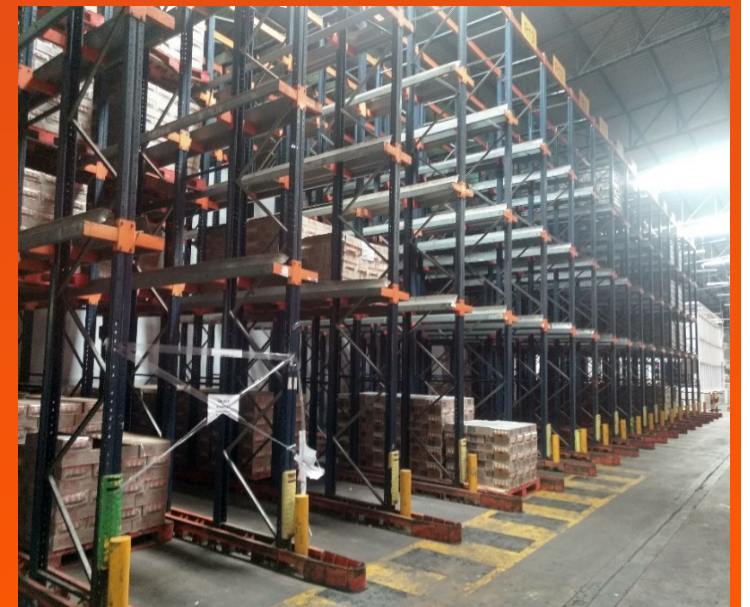




# Revolution in material handling...minimum human intervention

Material handling measures: Radio shuttle for FG stacking & movement.

- To avoid stock stacking on floor, to avoid blind spot on floor.
- Increase the stock storage 3 to 4 times with safe storage & movement



Further boosted up with the introduction of Automated Loading dock...

# DOCKING STATION

FOR



**Impression**  
SYSTEMS & ENGINEERS PVT. LTD





And State of the Art 'Automated Storage & retrieval system'...





# SMART Safety Initiatives...

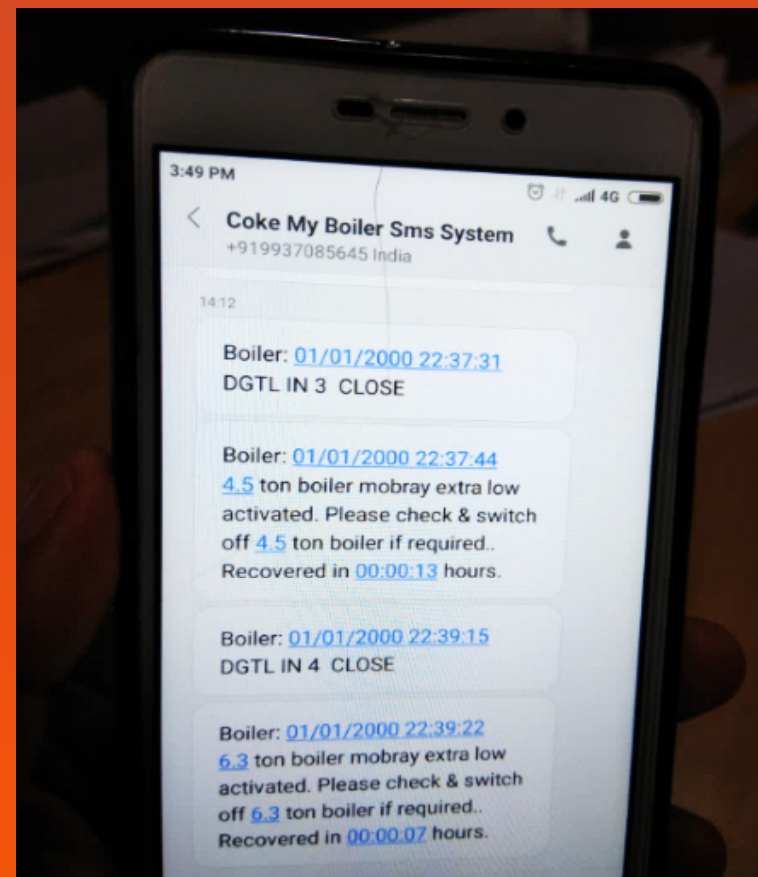
100% Interlocking encompassing both Safety and Quality compliance





# SMART Safety Initiatives...

SMS Alert – integrating boiler critical parameters



No dependency of manual forms of communications.

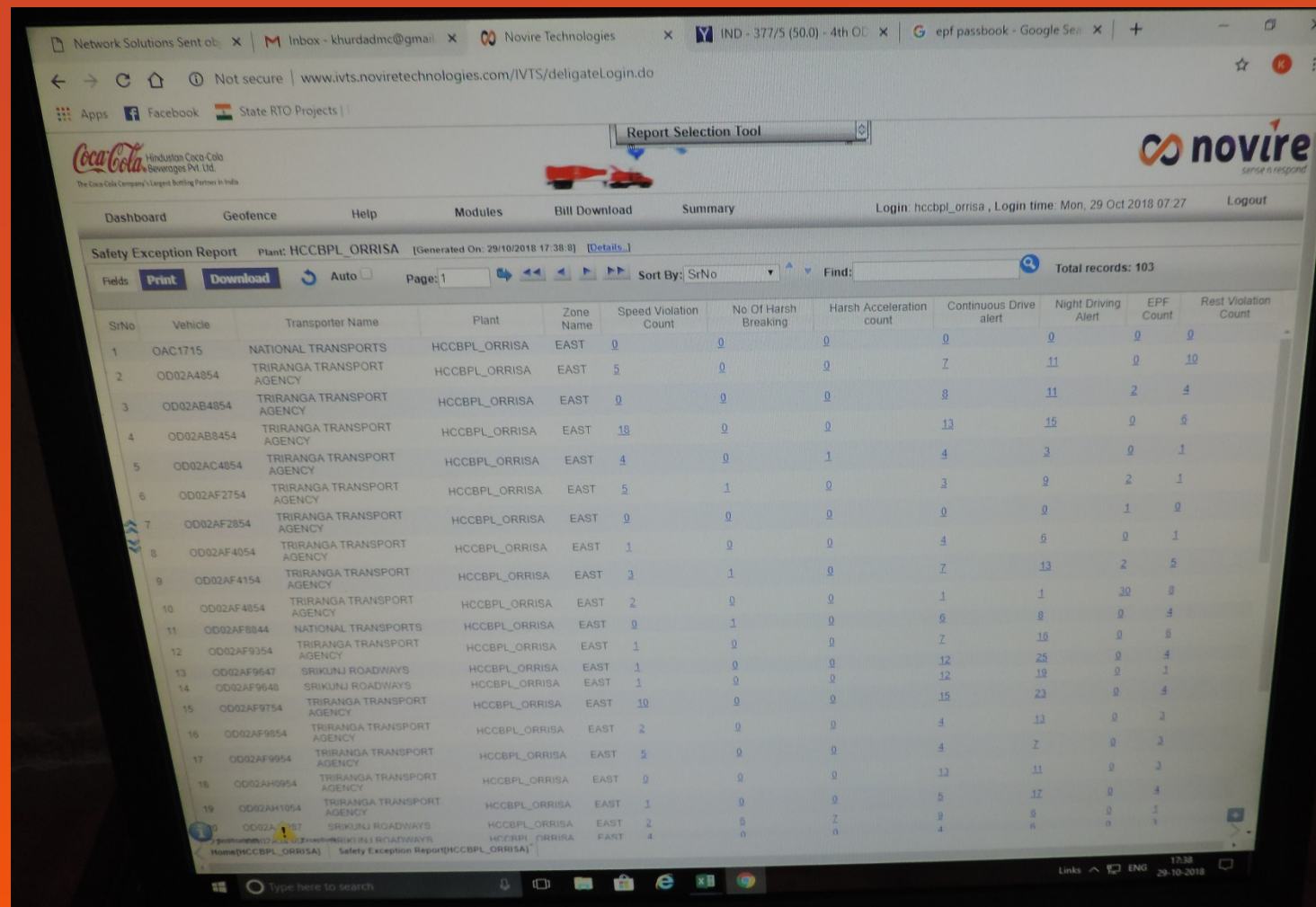
Instant message to initiate corrective action

System also helps in establishing routines are followed.

Auto confirmation against activated fault clearance.

# SMART Safety Initiatives...

Online tracking of Vehicle safety compliances...



The screenshot displays a web application interface for vehicle safety tracking. The header includes the Novire logo and navigation links like Dashboard, Geofence, Help, Modules, Bill Download, and Summary. The main content area shows a 'Safety Exception Report' for Plant HCCBPL\_ORRISA, generated on 29/10/2018 at 17:38:08. The report is a table with 13 columns: SrNo, Vehicle, Transporter Name, Plant, Zone Name, Speed Violation Count, No Of Harsh Breaking, Harsh Acceleration count, Continuous Drive alert, Night Driving Alert, EPF Count, and Rest Violation Count. The table lists 19 vehicles, mostly from TRIRANGA TRANSPORT AGENCY, with various violation counts.

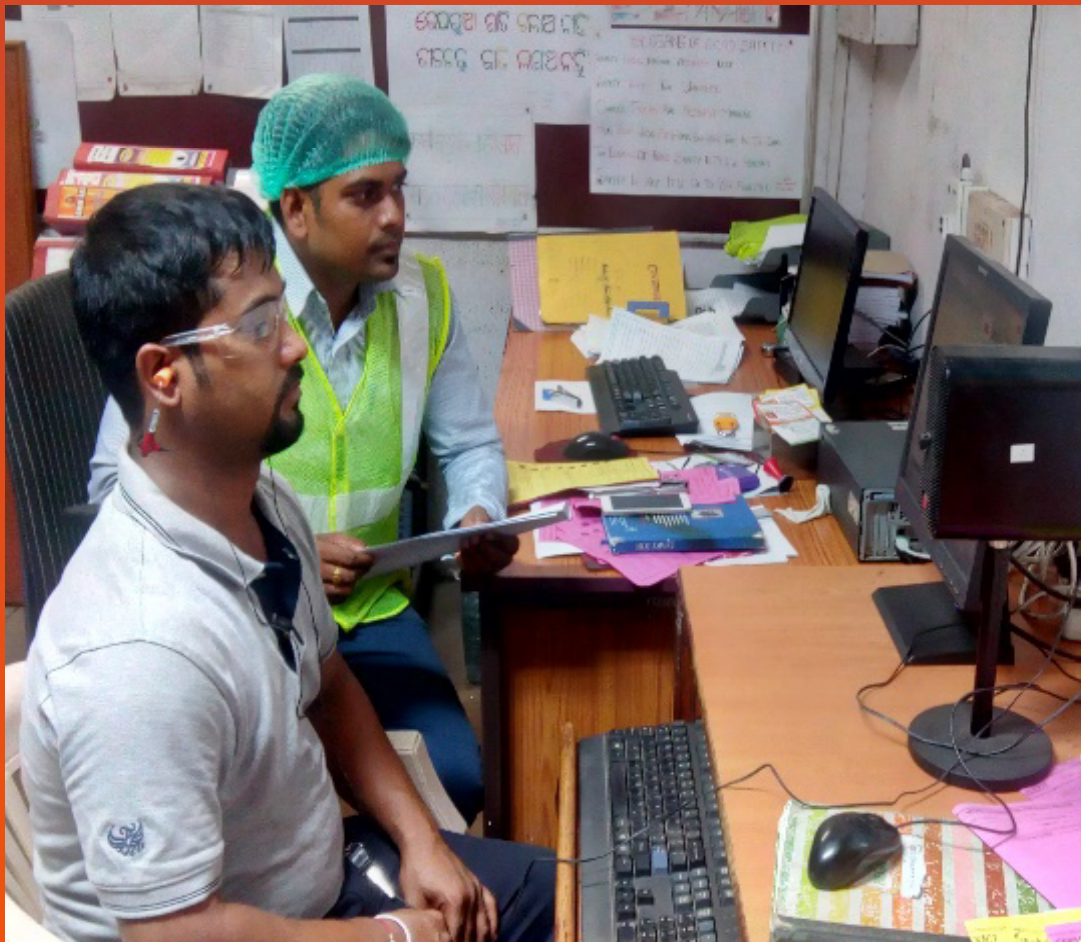
SrNo	Vehicle	Transporter Name	Plant	Zone Name	Speed Violation Count	No Of Harsh Breaking	Harsh Acceleration count	Continuous Drive alert	Night Driving Alert	EPF Count	Rest Violation Count
1	OAC1715	NATIONAL TRANSPORTS	HCCBPL_ORRISA	EAST	0	0	0	0	0	0	0
2	OD02A4854	TRIRANGA TRANSPORT AGENCY	HCCBPL_ORRISA	EAST	5	0	0	7	11	0	10
3	OD02AB4854	TRIRANGA TRANSPORT AGENCY	HCCBPL_ORRISA	EAST	0	0	0	8	11	2	4
4	OD02AB8454	TRIRANGA TRANSPORT AGENCY	HCCBPL_ORRISA	EAST	18	0	0	13	16	0	6
5	OD02AC4854	TRIRANGA TRANSPORT AGENCY	HCCBPL_ORRISA	EAST	4	0	1	4	3	0	1
6	OD02AF2754	TRIRANGA TRANSPORT AGENCY	HCCBPL_ORRISA	EAST	5	1	0	3	9	2	1
7	OD02AF2854	TRIRANGA TRANSPORT AGENCY	HCCBPL_ORRISA	EAST	0	0	0	0	0	1	0
8	OD02AF4054	TRIRANGA TRANSPORT AGENCY	HCCBPL_ORRISA	EAST	1	0	0	4	6	0	1
9	OD02AF4154	TRIRANGA TRANSPORT AGENCY	HCCBPL_ORRISA	EAST	3	1	0	7	13	2	5
10	OD02AF4854	TRIRANGA TRANSPORT AGENCY	HCCBPL_ORRISA	EAST	2	0	0	1	1	20	8
11	OD02AF8844	NATIONAL TRANSPORTS	HCCBPL_ORRISA	EAST	0	1	0	6	8	0	8
12	OD02AF9354	TRIRANGA TRANSPORT AGENCY	HCCBPL_ORRISA	EAST	1	0	0	7	10	0	8
13	OD02AF9647	SRIKUNJ ROADWAYS	HCCBPL_ORRISA	EAST	1	0	0	12	25	0	4
14	OD02AF9648	SRIKUNJ ROADWAYS	HCCBPL_ORRISA	EAST	1	0	0	12	19	0	1
15	OD02AF9754	TRIRANGA TRANSPORT AGENCY	HCCBPL_ORRISA	EAST	10	0	0	15	23	0	4
16	OD02AF9854	TRIRANGA TRANSPORT AGENCY	HCCBPL_ORRISA	EAST	2	0	0	4	13	0	3
17	OD02AF9954	TRIRANGA TRANSPORT AGENCY	HCCBPL_ORRISA	EAST	5	0	0	4	7	0	3
18	OD02AH0954	TRIRANGA TRANSPORT AGENCY	HCCBPL_ORRISA	EAST	0	0	0	13	11	0	3
19	OD02AH1054	TRIRANGA TRANSPORT AGENCY	HCCBPL_ORRISA	EAST	1	0	0	5	17	0	4
20	OD02AH1057	SRIKUNJ ROADWAYS	HCCBPL_ORRISA	EAST	2	5	7	9	8	0	1
21	OD02AH1057	SRIKUNJ ROADWAYS	HCCBPL_ORRISA	EAST	4	0	0	4	6	0	1

- ✓ Real time vehicle movement
- ✓ Vehicle Safety Parameters tracking & Compliance.



# SMART Safety Initiatives...

Employee Health Care- Ear FIT Test: To find out the gaps in PPE use like check the Ear Plug fitting in both ears...



# SMART Safety Initiatives...

Online monitoring of effluents...



TOC Analyser



pH Analyser

DATA ACQUISITION SYSTEM				
ANALOG STATUS:-				
SNo	Name	Value	Unit	Status
1	inlet cod	N/C	mg/l	OPEN
2	Outlet TOC	N/C	mg/l	OPEN
3	BOD	N/C	mg/l	OPEN
4	COD	N/C	mg/l	OPEN
5	Flow	21.675	m3/hr	LOW
6	MLSS1	1662.500	mg/l	OK
7	MLSS2	1912.500	mg/l	OK
8	outlet pH	9.188	pH	OK
9	inlet pH	10.421	pH	OK
10	DO1	1.094	mg/l	OK
11	DO2	1.141	mg/l	OK
12	TSS	23.906	mg/l	OK
13	inlet bod	N/C	mg/l	OPEN
14	inlet toc	N/C	mg/l	OPEN

Data Acquisition System



MLSS Analyser

✓ Online Effluent Quality

Monitoring system capable of real time Data transmission to State Pollution control Board, Odisha.

✓ Parameters Monitored : pH, TSS,BOD,COD,D.O.MLSS.

✓ Trend analysis





**“IF YOU CAN’T FLY THEN RUN,  
IF YOU CAN’T RUN THEN WALK,  
IF YOU CAN’T WALK THEN CRAWL,  
BUT WHATEVER YOU DO YOU HAVE  
TO KEEP MOVING FORWARD.”**

**MARTIN LUTHER KING JR.**

Open Happiness...happy Diwali

