

## AI Solutions

### About Us

We simplify business solutions using Artificial Intelligence (AI) and we take pride in being **Made in India**.

In simple terms, we install our AI & deep learning solution **On Your Premise** (in a Linux/Windows PC/VM), utilize your **existing CCTV cameras** to run the video feed through the software and then provide **real-time actionable and intelligent alerts** (via Email / WhatsApp / Speakers) and analysis, that helps businesses to run smoothly and efficiently.

Now, **only keep personnel to act on alerts** instead of monitoring CCTV feeds which can be tedious, tiring and error prone.

## What do we offer?

We offer deployment ready AI solutions to meet your immediate as well as future **needs for Cost Optimization, Safety/Security Compliance & Operational Excellence**. Sharing specific **use cases for our various clients**.

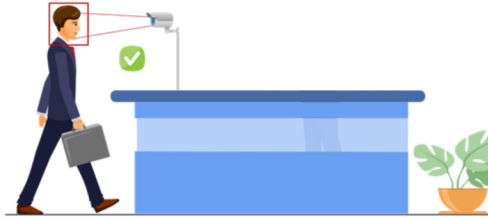
Problems Faced	Solution	Via
<ul style="list-style-type: none"> <li>✗ Biometric – Not allowed</li> <li>✗ False attendance</li> <li>✗ Maintaining registers</li> <li>✗ Too many standalone systems</li> <li>✗ Low workstation usage</li> <li>✗ Operator not being present at machine / taking long breaks, leaving machine unattended</li> </ul>	<b>Face Recognition / Detection</b>	Touch free: <ul style="list-style-type: none"> <li>✓ Attendance Management Module (synced with Active Directory and Access Controls)</li> <li>✓ People Occupancy Count (with time interval analytics)</li> <li>✓ System integration with HRMS, Door Access, etc.</li> <li>✓ Seat utilization</li> <li>✓ Machine Operation tracking</li> </ul>
<ul style="list-style-type: none"> <li>✗ Infection risk &amp; Loss of staff</li> <li>✗ Sanitization cost</li> <li>✗ Production loss &amp; Order cancellation</li> <li>✗ Facility Lockdown</li> </ul>	<b>COVID</b>	<ul style="list-style-type: none"> <li>✓ Social Distancing Violation alerts (Area capture)</li> </ul>
<ul style="list-style-type: none"> <li>✗ Not wearing Safety gear in critical areas – SOP not followed</li> <li>✗ Unauthorized movement of static safety equipment</li> </ul>	<b>EHS Compliance</b>	<ul style="list-style-type: none"> <li>✓ Safety Gear Inspection – Hard Hats &amp; High Viz Jackets</li> <li>Safety Equipment Movement alert e.g., for fire extinguisher, first aid kit, etc.</li> </ul>

In addition, other use cases using the CCTVs are:

Problems Faced	Solution	Via
<ul style="list-style-type: none"> <li>✗ Accessing unauthorised areas</li> <li>✗ Unauthorized movement</li> <li>✗ Pilferage or theft</li> </ul>	<b>Loss Prevention</b>	<ul style="list-style-type: none"> <li>✓ Real time intruder alert / perimeter security</li> <li>✓ Forklifts moving in unauthorized areas</li> <li>✓ Asset Tracking</li> </ul>
<ul style="list-style-type: none"> <li>✗ Incorrect Time and motion</li> <li>✗ High fuel and electricity cost</li> <li>✗ Meter / Fuel inaccurate / untimely reading</li> <li>✗ Lights on for long hours without usage</li> <li>✗ Production optimization</li> <li>✗ Unorganized material management</li> </ul>	<b>Efficiency Management</b>	<ul style="list-style-type: none"> <li>✓ Average bay loading and unloading time for process improvement</li> <li>✓ Automated reading / picture or video upload module for accurate info and integration into MIS</li> <li>✓ System integration with HRMS, Door Access, etc.</li> <li>✓ Light usage optimization</li> <li>✓ Hourly count of Trolleys leaving post-production</li> <li>✓ Alert of materials lying beyond specified area</li> </ul>
<ul style="list-style-type: none"> <li>✗ Person in not authorized in an area</li> <li>✗ BOPT/Reach Truck (RT) not following lane discipline</li> <li>✗ BOPT/RT over speeding</li> <li>✗ Pedestrian in the BOPT/RT area</li> <li>✗ Pallets are not stacked correctly</li> <li>✗ Pallet is dragged in front of another pallet</li> <li>✗ Pallet is possibly unstable</li> </ul>	<b>Palletized Racking</b>	<ul style="list-style-type: none"> <li>✓ Unauthorised personnel alert through face recognition</li> <li>✓ Lane Discipline Alert</li> <li>✓ Speed Alert</li> <li>✓ No man's land Alert</li> <li>✓ Incorrect Pallet stack Alert</li> <li>✓ Pallet Drag Alert</li> <li>✓ Unstable Pallet Alert</li> </ul>
<ul style="list-style-type: none"> <li>✗ Paperwork / maintaining registers</li> <li>✗ Manual checking of available spaces in parking or dock area to manage incoming trucks with containers for loading</li> <li>✗ Improper alignment of vehicle / container to a given parking space</li> </ul>	<b>Vehicle / Parking / Dock Management</b>	<ul style="list-style-type: none"> <li>✓ Number plate detection at entrance / docking areas</li> <li>✓ Vehicle / Dock / Container Parking management</li> <li>✓ Parking alignment alert</li> </ul>

Few examples:

### Attendance Management



#### Face Recognition

DARSA Ai system identifies faces as per registered data



Digital Dashboard

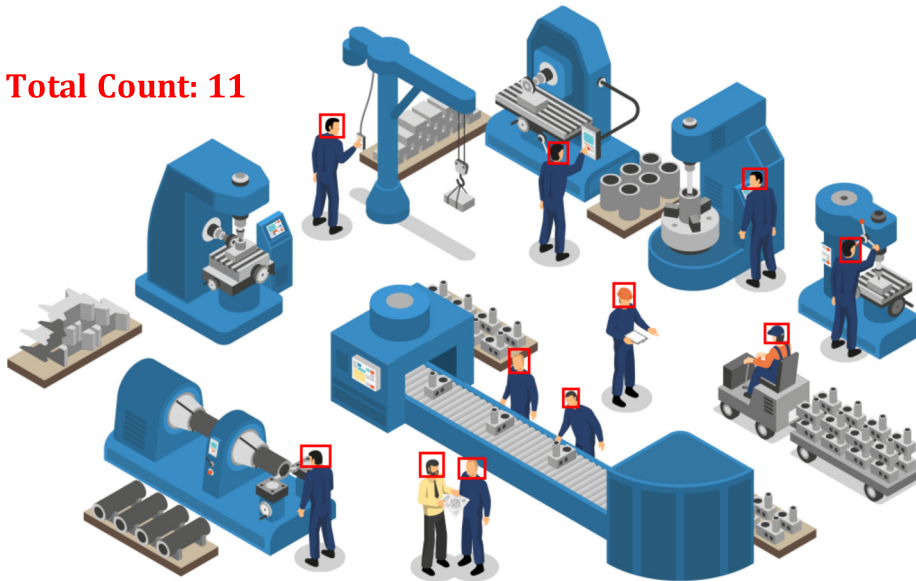


#### Real-Time sync

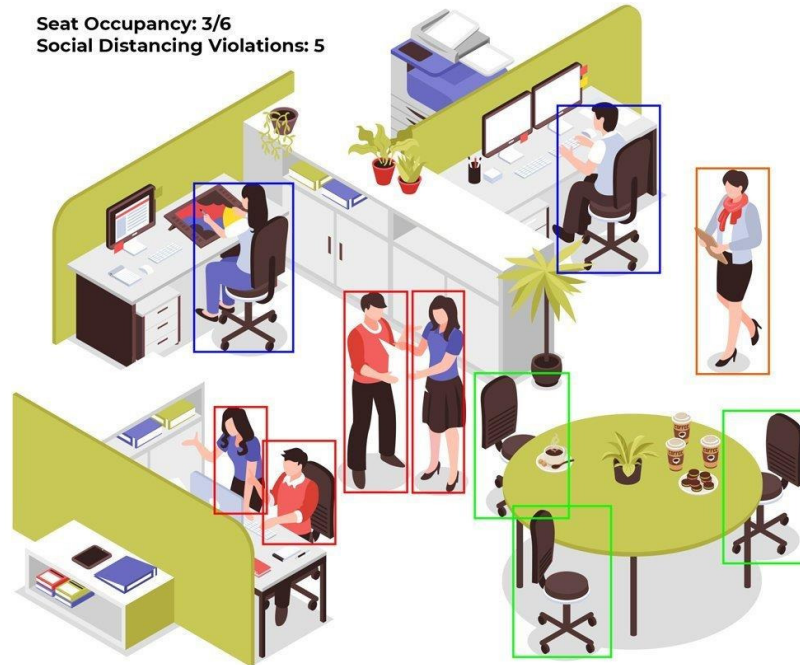
Generates real-time attendance records on cloud, sync with company hrms etc.

### People Occupancy

**Total Count: 11**



### Seat Utilization & Social distancing

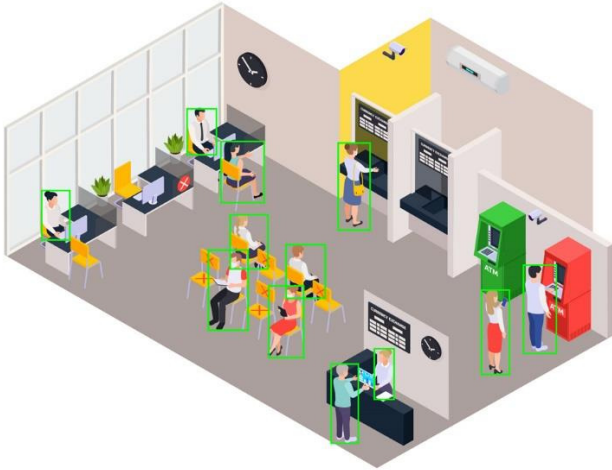


### Machine Operations Tracking

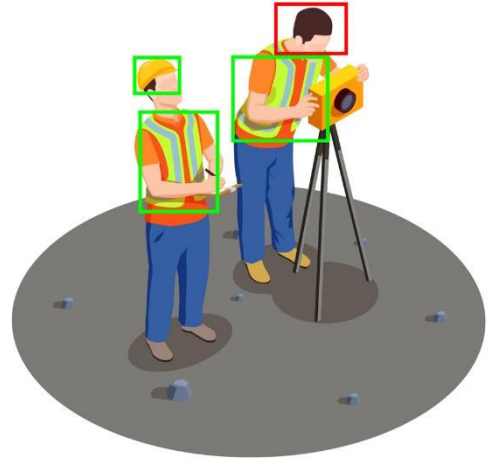


### Social Distancing

Social Distancing Violations: 0



### Safety Compliance



### Intruder Alert – Outdoor & Indoor



## Alert Management:

- Real Time alert via Email with Image
- Alert via WhatsApp
- Alert via PA system (SIP based PA system)
- Alert via API Call
- Alert via IVR Phone Call

## How long does it take to be up and running with our solution?

Less than 3 days to get majority of our features working (local customization excluded).





## Hardware and Bandwidth Requirements

- Min. one i5 Intel (> 8<sup>th</sup> generation) processor with at least 8 GB of RAM but i7 9gen is preferred
- PC would need to be on the same network as the cameras
- Regular Mode: Images are also uploaded with alerts -> 1-2 Mb/s bandwidth
- Low Bandwidth Mode: Images are cached locally, alerts are sent in real time
- Ubuntu 18.04 LTS is preferred, but would work on windows as well

## Data Storage

- All alerts have an Image component for audit as well as compliance
- These images will need to be saved either using
  - Customer owned Amazon web services based “S3” or Microsoft Azure based “Storage”
  - Darsa AI hosted Amazon web services based “S3” or Microsoft Azure based “Storage” on behalf of customer
- In low bandwidth mode the images will be stored locally on premise and will not be uploaded
- All images are uploaded on private mode only, where only the client will be able to access the images
- No video is stored or recorded from the on-premise software

## What is the Cost Saving?

Return on Investment (ROI) in less than 3 months.

## Want a customized real time alert?

We can do that for you, any action or event, if it is captured by the CCTV can be converted into a real time alert.

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