

## MATRIX SATATYA

### Video Surveillance Solutions for Enterprises

Organizations are responsible for ensuring safety of their employees and security of the assets. Further, productivity and compliance are also strongly linked to video surveillance infrastructure. No wonder, video surveillance has emerged as a critical part of any organization's security strategy and infrastructure.

Presenting Matrix SATATYA - a family of Video Surveillance solutions specifically engineered for serious deployments. Matrix SATATYA offers all standard video surveillance functions including video capturing, recording, streaming, live monitoring, playback and investigation. Additionally, SATATYA offers centralization, video analytics and value added applications such as Command & Control, Parking Management and Weighbridge, and POS Integration. It's innovative Cognitive Response Engine allows customers to automate their routine surveillance activities. Matrix SATATYA family includes enterprise-grade Video Management System (VMS), Network Video Recorders (NVRs) and IP Cameras.

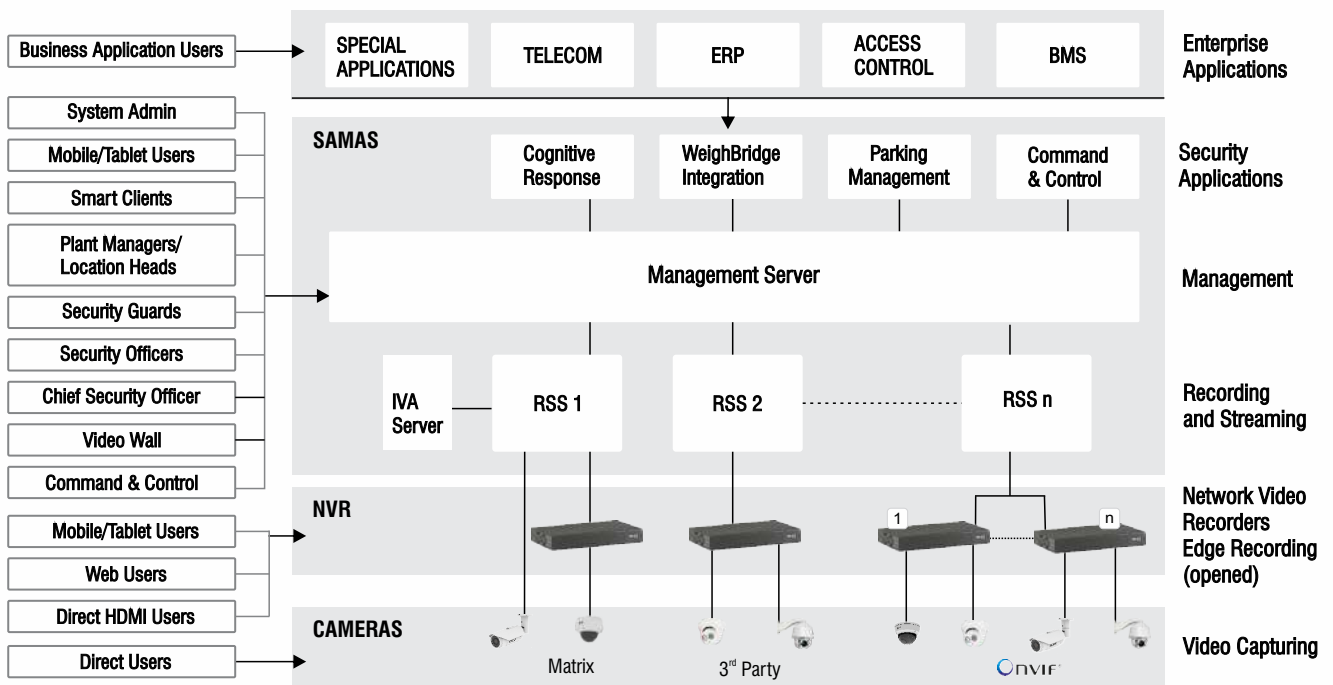
Designed with emphasis on centralized visibility and preventive security, Matrix SATATYA truly addresses security, safety, productivity and compliance needs of modern organizations.

## SATATYA INTRODUCTION

Matrix SATATYA is a family of enterprise-grade video surveillance products including IP Cameras, NVRs, Video Management System and Surveillance Applications. SATATYA offers following functions:

- Video Capturing
- Video Live View
- Video Recording
- Video Streaming
- Playback and Investigation
- Multi-Location and Centralization
- Command and Control
- Intelligent Video Analytics (IVA)
- Notifications and Alarms
- Storage and Backup
- System Admin, Devices and Users Management
- Integration with Matrix Access Control & Third-party Systems (Fire Alarms, Intrusion System, Boom Barriers, Tool Booth, and many more.)
- Parking Management
- Weighbridge Integration
- Cognitive Response Engine

## SATATYA ARCHITECTURE



## SATATYA DIFFERENTIATORS

### Centralized Video Surveillance

Instead of typical ad hoc bits-and-pieces, SATATYA promotes top-down, central planning, designing, implementation and operation of video surveillance. Centralized system management ensures faster response to changing user needs, user access rights, robust data and backup management.

### Organization-wide Visibility and Control

Consolidated live view and events from multiple locations spread across the planet ensure real-time visibility and quick response. Consistent implementation of security policies reduces incidents, improves safety-security, compliance and productivity.

### Complete Portfolio

Matrix SATATYA family includes entire range of products including IP Cameras, NVRs, VMS, PC Smart Clients and Mobile Apps ensuring symbiotic interworking, seamless integration, lower procurement cost and single point for support.

### Scalable

With expandability of up to 65,535 cameras, 10,000 Locations/Recording Servers and 65,535 users SATATYA is designed for modern enterprises.

### Distributed and Modular

Matrix SATATYA can adapt to any organization structure, hierarchy and physical layouts with complete flexibility and investment protection.

### Cutting-edge Technologies

SATATYA employs latest technologies such as H.265, 4K and RAID for better performance and making it future ready.

### Software-centric

SAMAS Video Management System is at the center of most SATATYA deployments. This software-centricity brings intelligence, flexibility, automation, efficiency and scalability.

### Performance

SATATYA scores high on all performance attributes expected from a video surveillance system. Be it video quality, streams, throughput, bandwidth, storage, ease of use, reliability, durability, etc.

## Robust

Multi-level recording with auto sync ensures video data is available when required. Most SATATYA building blocks are validated on “test to fail” philosophy with baseline and scalability tests. Further, anomaly and fault detection help predict and prevent failures.

## Redundancy

Mission-critical video surveillance applications demand redundancy and safe failover. SATATYA is designed with these requirements at all recording levels - NVR and Redundant Recording Server.

## Integration

Integration of video surveillance with key business applications and processes such as POS, Access Control, BMS, Fire, Weighbridge and ERP assist in automating business processes for higher productivity and control.

## Open System

SATATYA offers open interfaces at all levels - camera, NVR, VMS, and surveillance applications. Open interfaces include physical interfaces, open protocols such as ONVIF, TCP based APIs, and Database Integration.

## Platforms

SATATYA is platform agnostic and supports diverse devices and clients, including video walls, TV screens, PC/laptops and mobiles.

## Innovative Functions

SATATYA goes beyond the standard “capture-view-store-play” video surveillance solution. It offers a host of value-added applications such as Command and Control, Video Wall, Parking

Management, Weighbridge, Cognitive Response Engine, ANPR, Powerful Investigator, Advanced Video Analytics, etc.

## Unique Features

SATATYA offers a host of innovative features offering flexibility, productivity, ease of use and cost benefits.

## Video Analytics

All building blocks of SATATYA are strong on analytics, starting with cameras offering analytics on the edge. NVRs offer second layer of analytics. Finally, RSS (Recording and Streaming Server) works with Matrix IVA Server or third-party IVA servers. With the capability to run analytics on live and playback, video analytics offers benefits of automation and preventive security.

## Cognitive Response Engine

Cognitive Response Engine with Automated Monitoring (CREAM) is an innovative SATATYA module designed to automate routine surveillance workflow and activities. User can create multiple customized scenarios with input, triggers, real-time analysis and desired responses. CREAM ensures preventive security with consistent response by overcoming human constraints, lapses and delays.

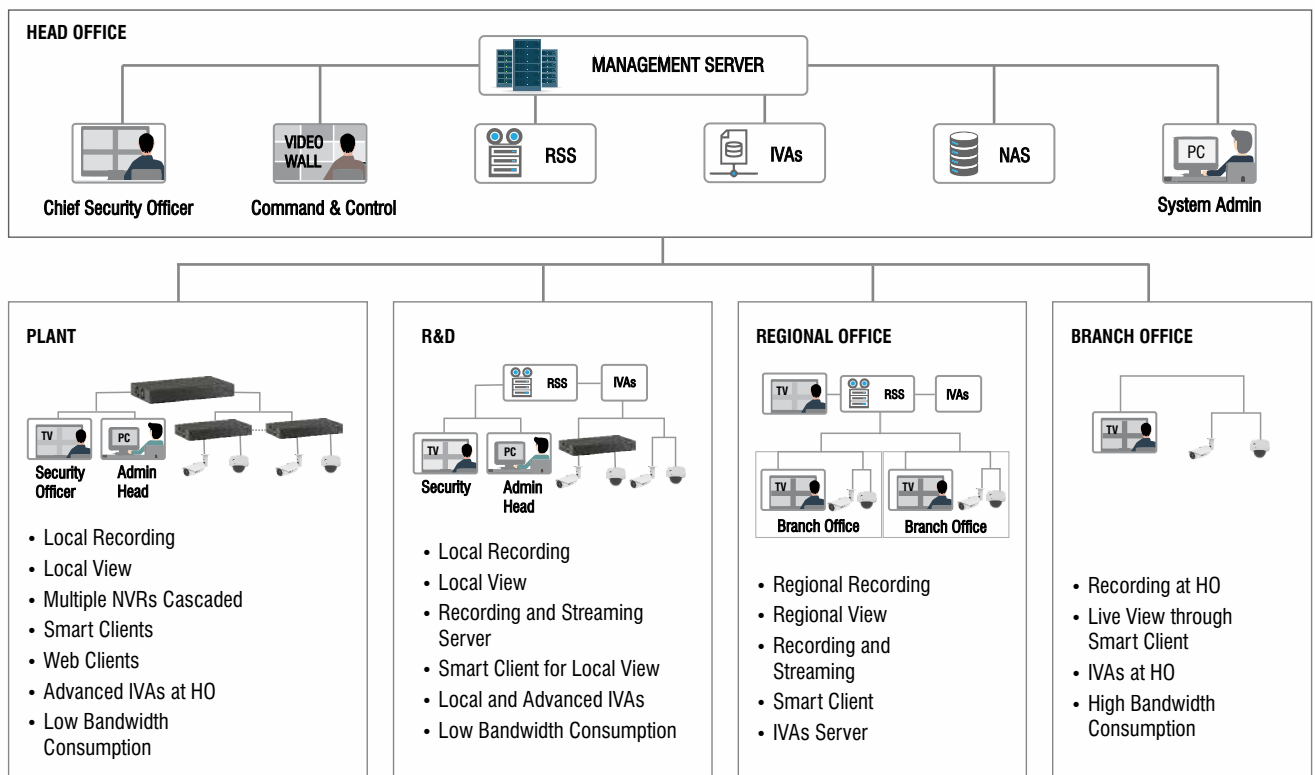
## Simple Operations

SATATYA is simple to manage and run without need for technical or security experts.

## Support

With indigenous R&D, network of 2,500+ SIs and 24x7x365 support, Matrix is equipped to offer prompt support and product upgrades ensuring higher uptime.

# SATATYA DEPLOYMENT

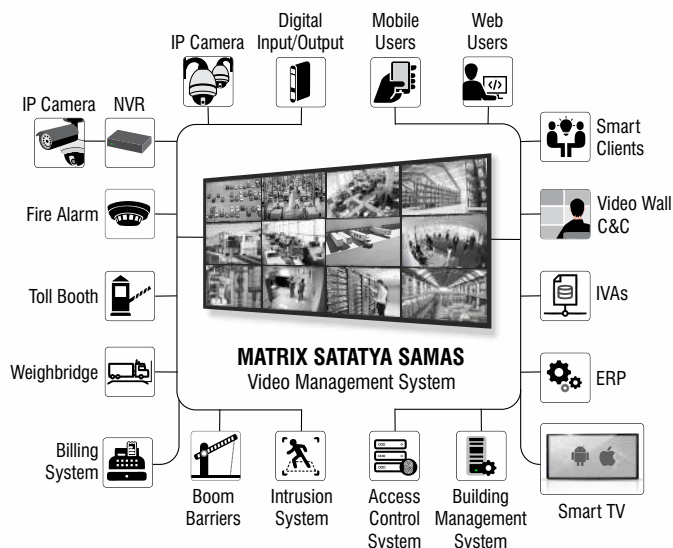


## SATATYA SAMAS - VIDEO MANAGEMENT SOFTWARE

Video surveillance technology is rapidly evolving from the yesteryears' hardware centric isolated products to software powered centralized solutions. Matrix SAMAS is a comprehensive video management software system created to play the central role in a surveillance system for modern organizations. With its modular and scalable architecture, Matrix SAMAS can be effectively deployed in any organization irrespective of its structure, size or geographical spread. Further, SAMAS offers unique value-added surveillance applications such as Parking Management, Weighbridge, Cognitive Response Engine with Automated Monitoring and Access Control Integration. Video Analytics is a core strength of SAMAS with built-in standard and advanced IVAs and support for third party IVAs. Thanks to the open platform and APIs, SAMAS can be integrated with a host of third party applications and devices including IVA Servers, BMS, Fire, ERP and devices.

SAMAS caters to all classes of users including Chief Security Officer (CSO), Command & Control, Plant Heads, Branch Managers, Remotely Travelling Managers, Security Guards, IT Managers, System Admin, etc.

Matrix SAMAS adds the power, flexibility and intelligence of software to any video surveillance system. SAMAS is ideal for large and medium sized organizations.



## SAMAS SERVER AND CLIENT MODULES

### Management Server

Manages the entire system, authenticates users and administers RSS, NVRs, cameras, devices and peripherals. Management Server runs on Windows and SQL.

### Recording and Streaming Server (RSS)

Receives video streams from cameras and NVRs for recording on local drives and NAS, and streaming to users for live viewing. RSS also manages backups and archiving, and runs on Windows.

### Admin Client

Admin Client is a Windows application to log into the SAMAS Management Server for configuring and managing users, servers, devices, storage, backup, alerts and notifications. Multiple admin clients can be created with different rights.

### Smart Client

Smart Client is a video surveillance user application designed for Windows to perform all activities such as Live View, Playback, Investigation, Events, Alerts, Pop-ups, Reports, Video Analytics, System Monitoring, etc. Multiple such Smart Clients can be created with different rights.

### Media Client

A Windows application for transient users not having regular log in rights but still needing access to videos for investigation. A Media Client points to drives where recorded/historical videos are stored.

### Mobile Client (VISION)

Mobile Client is a mobile application for Android and iOS mobile users for Live View and Playback. Multiple Mobile Clients can be created with different rights.

## SAMAS DIFFERENTIATORS

### Distributed and Federal Architecture

Matrix SAMAS can be deployed at multiple locations to match any organization structure, hierarchy and geographic layouts.

### Scalable

With expandability of up to 65,535 cameras, 10,000 Locations/Recording Servers and 65,535 users, SAMAS can meet the requirements of any large organization.

### Cloud Ready

SAMAS can be hosted on a private or public cloud.

### Command & Control

SAMAS supports functions and features to facilitate C&C operations such as video walls, hierarchical eMaps, bookmarks, evidence locks, video pop-ups, audio-visual alarms, instant playbacks, etc.

### Multi-monitors and Video Wall

Organizations can setup multiple TVs and video walls for central, regional and local monitoring stations. SAMAS also offers flexible logical grouping and sequencing of cameras.

### **High Availability**

SAMAS offers flexibility to deploy failover servers for critical locations, truly making it a highly available surveillance system.

### **Server Redundancy**

Deploy multiple RSS for uninterrupted monitoring and preventing data loss.

### **Network Redundancy**

Cameras initiate communication with RSS and NVRs, eliminating dependency on networks. Further, configure multiple ISPs and networks for uninterrupted connectivity during ISP or network failures.

### **Health Status**

SAMAS monitors and enunciates health status of servers, NVRs, cameras, storage and sensors.

### **Multiple Stream Profiles**

Optimize bandwidth requirement by configuring different profiles for different usages such as recording, local and mobile view, etc.

### **User Roles and Rights**

Create and assign users' rights matching their profiles for privacy and security. Control their camera-wise live view and playback rights.

### **Multilingual**

SAMAS supports all languages including English, Spanish, French, Portuguese, Italian, German, Korean, etc. Further, Matrix or SI can add a new language easily.

### **Global Search**

SAMAS intelligently searches and fetches footage and events for any date-time, interval, source from all possible global sources such as RSS, NVR and camera, backup and archive.

### **Powerful Investigator**

SAMAS offers very powerful yet simple to use investigator. It investigates recorded videos by applying selected video analytics to save investigators' valuable time and efforts.

### **Evidence Lock**

Restrict deletion or overwriting of important video evidence by defining a locking period.

### **Event Triggered Evidence Posting**

RSS collects event triggered evidence clip from the edge device and sends to the designated Smart Client ensuring real-time response and protecting the evidence even if the edge device is destroyed.

### **Manual and Auto Clip Export**

Export or mail video clips in any popular format either manually or automatically when triggered by events.

### **User Defined and Triggered Events**

User can define his own events and trigger them leading to predefined responses such as sending a clip, operating a device, generating an alarm or a trigger to CREAM.

### **Day Highlight**

SAMAS creates a summary file based on events or time.

### **Time Lapse**

RSS creates time lapse files by reducing frames from the video feeds for quick overview.

### **Retrieve Edge Data**

RSS would retrieve recording from the edge device missed during network brownouts.

### **Adaptive Edge Streaming**

SAMAS instructs Matrix NVR and cameras to adjust FPS based on events to overcome bandwidth and storage constraints.

### **Hierarchical eMap**

Assign and monitor cameras, sensors, NVRs, RSS, Matrix Access Control devices to locations on maps of buildings, campuses, cities, etc. Use eMap to check video feeds, health status and alarms.

### **Popular and ONVIF Camera Support**

SAMAS works with all popular brands and cameras supporting ONVIF.

### **Reports and Analysis**

Reports and event logs for in-depth analysis and MIS.

### **Notifications**

SAMAS offers multiple options for notifications such as Video Pop-up, Email with Snapshot, Audio Alarm-Buzzer and SMS.

### **Device Initiation**

SAMAS connects with all Matrix NVRs and cameras with a static public IP address overcoming the connectivity issues. Only internet connectivity is required on the cameras' side for connecting in the architecture.

### **Camera-wise Recording and Backup Days**

Define separate retention days for recording and backup for every camera.

### **Two-level Archiving**

First level archiving creates exact copy of the original data. Second level archiving allows removing P frames and audio to optimize storage.

### **Two-way Audio**

Use Smart Client audio-in and audio-out ports to connect mic and speaker and listen live and talk or make announcements.

## **SAMAS CREAM - COGNITIVE RESPONSE ENGINE WITH AUTOMATED MONITORING**

Most video surveillance applications require human involvement in monitoring videos and events, and respond even to regular and routine situations. Such scenarios require security people to work mechanically like pre-programmed robots. But, humans are not effective robots and either get bored or tired and are likely to miss events or slow to respond.

Matrix has designed innovative Cognitive Response Engine (CREAM) to automate routine security scenarios consisting of

multiple sequences of inputs/triggers and outputs/responses. This simple yet effective algorithmic approach allows running multiple such scenarios simultaneously to model any real life complex situation.

CREAM is completely user configurable and can meet any customer scenario. CREAM supports a wide range of inputs-triggers and outputs-responses, covering all practical possibilities.



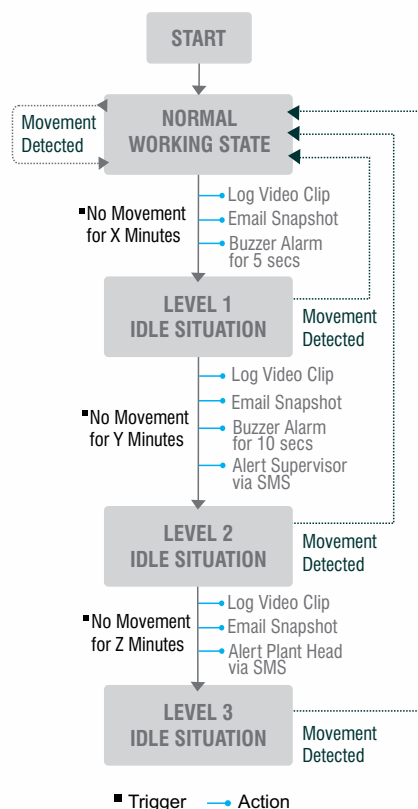
## Features

- Automated Monitoring
- Cognitive Response
- Multiple Simultaneous Scenarios
- Multiple Inputs and Triggers
- Real-time Response
- Integration with External Systems such as Matrix Access Control, Fire Alarm, etc.
- User Inputs and Intervention
- Live Display and Tracking of Events and Responses
- Events and Responses Logs
- Reports

## Advantages

- 24x7x365 Consistent and Predictable Surveillance
- Replace Security Staff with Technology
- Manage Situations Humans cannot Manage
- Prevent Humans Lapses
- Prevent Delays
- Integrated Holistic Security System
- Humans can Intercept and Override Automatic Execution of Scenarios.
- Live Monitoring with Flexibility for Humans to Intervene and Take Over or Override
- Audit Trail for Analysis and Correlation
- Analysis of System and User Activities

## CREAM State Flow



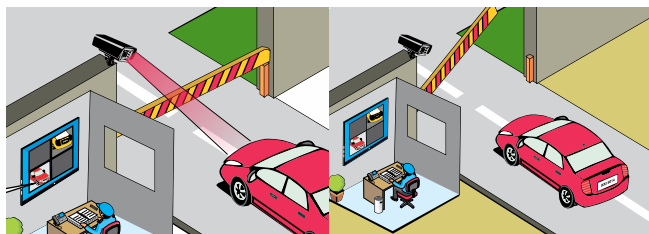
## SAMAS VEHICLE TRACKING AND PARKING MANAGEMENT (VTPM)

Matrix Parking Management solution addresses the need for automated functioning of small, medium or large parking areas. Equipped with smart features, SAMAS VTPM can recognise license plates, notify unauthorized parking and keep track of number of occupied and empty slots. When integrated with Matrix IP Cameras and NVRs, VTPM becomes an end-to-end centralized parking management solution.

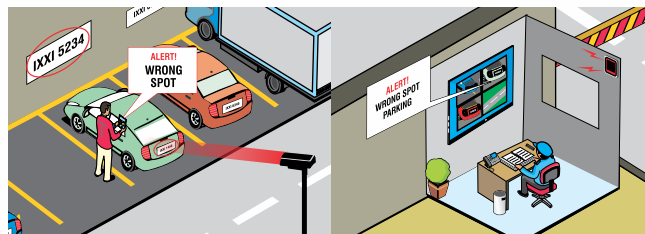
### Parking Management Features

- License Plate Recognition
- Tailgating
- Prohibited Parking
- Wrong Way Detection
- Vehicle Overstay
- Most and Least Visited
- Most and Least Occupied
- Vehicle Counting
- Unauthorized Parking
- Improper Parking
- Premise Availability
- Parking after Closing Hours

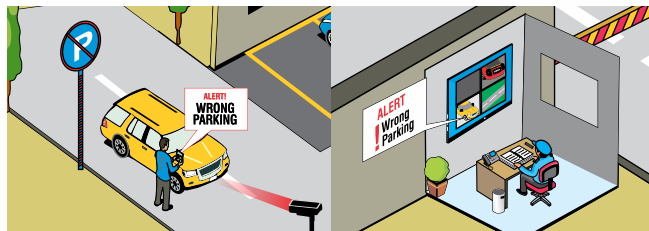
### Entry or Exit of Vehicles



### Unauthorized Parking



### No Parking



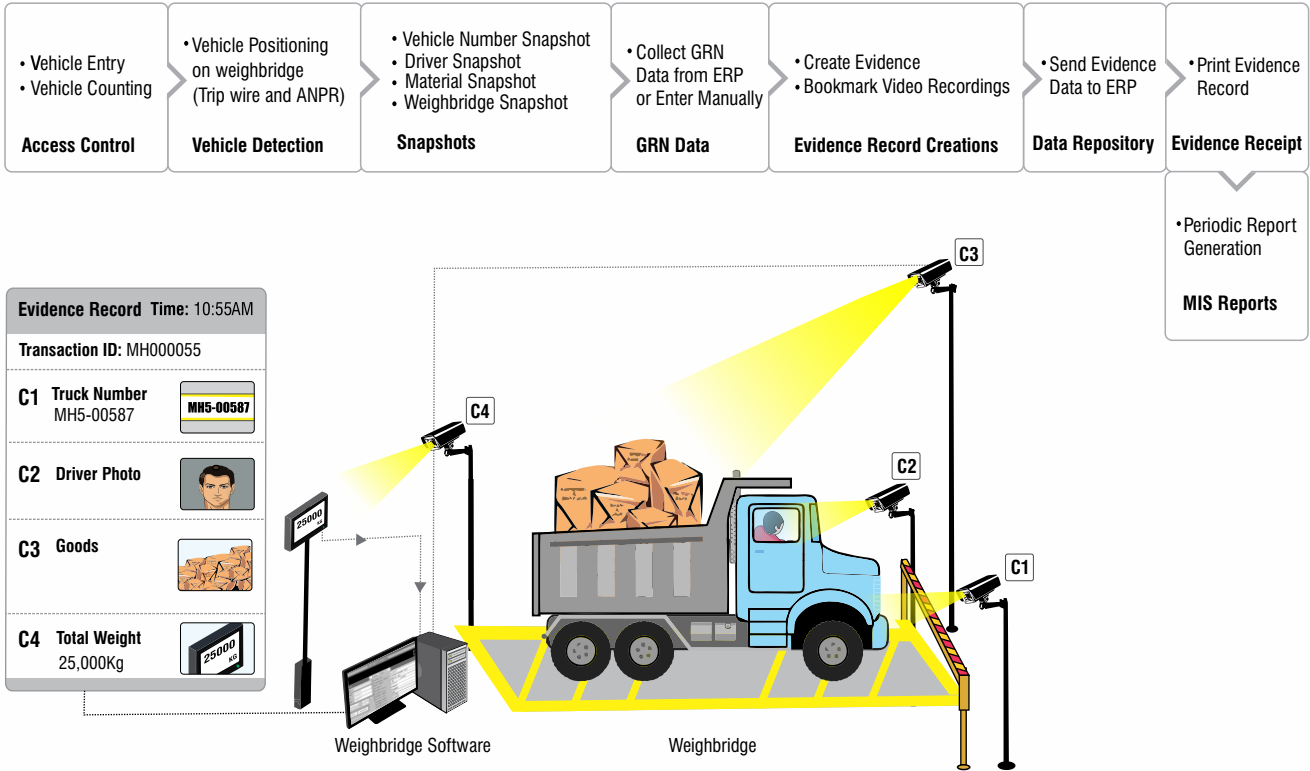
### Improper Parking



# SAMAS WEIGHBRIDGE INTEGRATION

SAMAS Weighbridge collects pictorial evidence of inward or outward vehicles by mapping unique numbers such as License Plates, Challan Numbers or Token Numbers for further verification and auditing. Later, a supervisor can audit and a manager can approve every transaction by checking snapshots of the vehicle, driver, payload and weighing scale. SAMAS Weighbridge also supports seamless integration with the organization's ERP through API.

## Weighbridge Workflow



## SAMAS VISION: APP FOR REMOTE SURVEILLANCE

VISION is a mobile application for Matrix SAMAS users to monitor and manage video surveillance from their mobile phones and tablets. VISION offers following features:

- Live and Playback Views
- Simultaneous View up to 16 Streams
- Camera Grouping
- Favorite Channels and Template
- Two Way Audio
- Telephony Integration
- Call Button for every Channel
- Digital Zoom
- PTZ Controls
- Mainstream and Substream
- Android, iOS and Windows

## SAMAS SMART CLIENT

A video surveillance user application designed for Windows to perform all activities such as Live View, Playback, Investigation, Events, Alerts, Pop-ups, Reports, Video Analytics, System Monitoring, etc. Multiple such Smart Clients can be created with different rights.



## SAMAS SPECIFICATIONS

- Maximum No. of Cameras Supported: 65,535
- Maximum No. of Cameras Per Recording Server: 255
- Maximum No. of Concurrent Users supported: 65,535
- Maximum No. of Recording Server Supported: 10,000
- License is not required for Recording and Streaming Servers(RSS)

## SATATYA PARAM - NETWORK VIDEO RECORDERS

SATATYA PARAM is a range of network video recorders that are designed for a seamless monitoring experience. Offering a modern aesthetic design with a powerful performance for high-resolution recording the devices meet the requirements of modern enterprises. A reliable solution that offers 24x7 video monitoring

### NVR Differentiators

#### Camera Initiation

NVR accepts cameras' registration requests. Internet connectivity is only required to connect the camera to the recording device.

#### High Compression

With on-chip hardware compression, all popular algorithms such as H.265, H.264, and MJPEG the network video recorders offer the flexibility to interface with all types of IP cameras and encoders.

#### 12MP Camera Recording

PARAM Network Video Recorders can handle ultra high-resolution streams (up to 12MP) for recording and live view.

for multiple locations. The comprehensive range starts from 8 channels and goes upto 128 channels. Designed with superior components the devices comply with international standards such as CE, FCC, BIS, and RoHS.

#### RAID

Matrix network video recorders offer RAID 0, RAID 1, RAID 5, and RAID 10, offering redundancy in video storage.

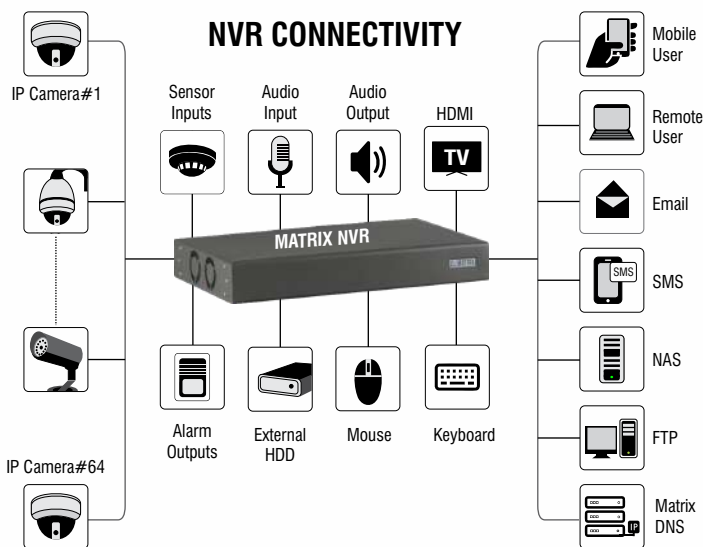
#### Two Way Audio

Using built-in Audio-in and Audio-out ports, connect mic and speaker to capture audio, listen live and talk or make announcements.

## SATATYA PARAM - EXTREME SERIES NETWORK VIDEO RECORDERS

SATATYA PARAM - Extreme series network video recorders have been developed for SOHO and SME enterprises. In addition to high resolution recording and live view of multiple streams, they offer innovative cascading, powerful investigator, and instant

notifications. The comprehensive range of extreme series starts from 8 channels to 64 channels. Each variant is housed in a self-contained.



### NVRX Differentiators

#### Cascading

An innovative function allows linking of up to 20 NVRs to expand capacity and live view of all these cameras from any NVR in the loop.

#### 4K Decoding and HDMI 2.0

Powered by the latest video processor, PARAM NVRs offer 4K resolution on HDMI 2.0 for live view and playback

#### Ultra High Decoding Capacity

With power to decode up to 19 cameras streaming H.265 @ 2MP, Matrix NVRX is one of the most powerful NVRs in the market

#### Throughput

High resolution cameras dump large video data on the NVR, making throughput a very critical specification. Matrix NVRX is peerless with its capacity to handle 512mbps.



### Adaptive Recording

Save upto 30% storage by switching to lower frame rate during no activity and no higher frame rate during activity.

### Constant/ Variable Bitrate

Optimize bandwidth usage by configuring every stream with either constant or variable bitrate

### Camera-wise Recording and Backup Days

Define separate retention days for recording and backup for every camera.

### Storage

Store up to 80TB of recordings on a single NVRX

### Integration

Matrix NVRX integrate with third-party systems or devices using digital ports and directly with Matrix Access Control.

### Instant Notifications

For real-time response and preventive security, Matrix NVRX offers instant notifications such as SMS, Email, Email with Snapshot, Direct Call from Mobile App and Video Pop-up.

### TCP Notifications

Stay on top of situations in remote locations with limited connectivity and bandwidth. Using TCP Notifications, Matrix NVRX sends alerts and notifications using bandwidth as low as 5Kbps.

### Interop

Matrix NVRX offers built-in support for all popular brands of cameras in the market. Further, it also supports ONVIF, RTP/RTSP over TCP/UDP, HTTP Tunneling/ Interleaving for connecting other cameras.

### Plug-n-Play and Audio Configuration

Matrix NVRX automatically searches IP cameras and adds, assigns IP addresses and configures them with a single click.

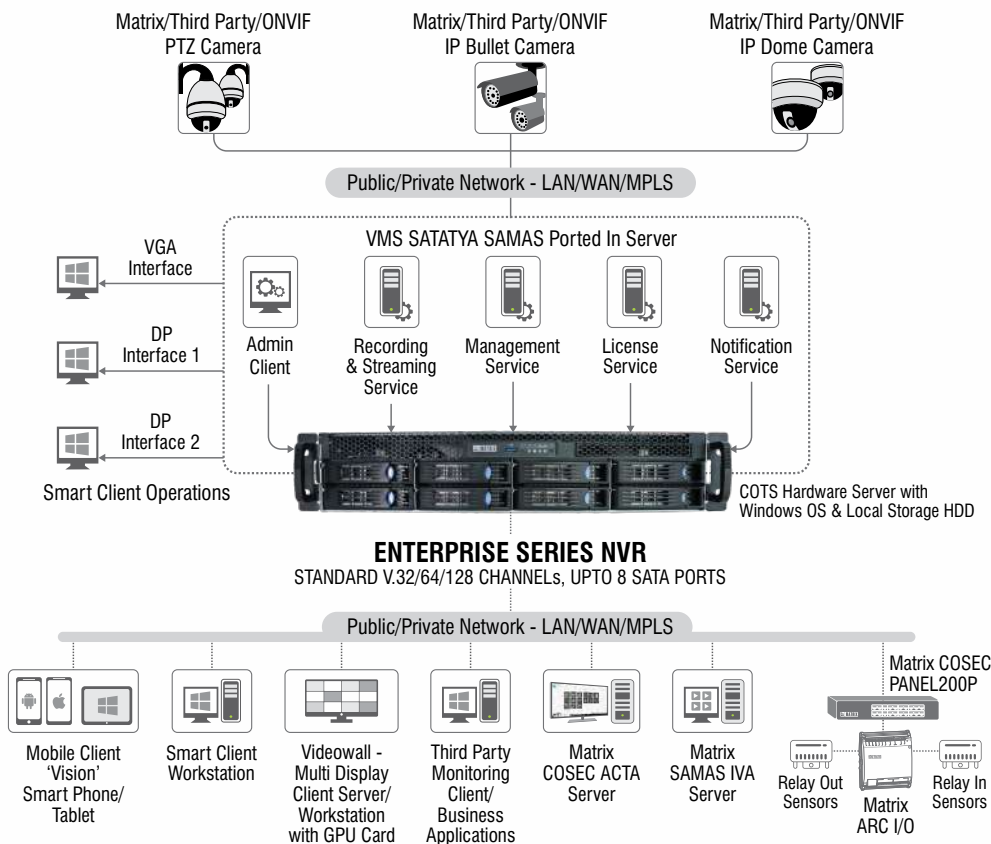
### Matrix DNS

NVRX and cameras can register their customized domain names on Matrix DNS which their clients can access to resolve.

## SATATYA PARAM - ENTERPRISE NETWORK VIDEO RECORDERS

Matrix introduces a new range of network video recorders for medium and large enterprises. A turnkey server-based video management and surveillance solution. The recording device offers the latest generation of server-grade and enterprise-class hardware technology. Also, it is engineered with the robust,

open, and scalable Video Management Software that makes it a perfect combination to fulfill the integrated Video surveillance demands. The enterprise network video recorders are offered in three variants starting from 32 channel, 64 channel, and 128 channel.



# ENVR Differentiators

## Turnkey VMS Solution

Enterprise NVR comes with preloaded Video Management Software(VMS) - SATATYA SAMAS which makes it easier for users to scale up the solution. Also, makes it easy to use the VMS application modules across geographically diverse locations.

## Redundancy

Enterprise NVR offers 4 types of redundancy for network failure, recording failure, storage failure, and power failure.

## Hot-Swap Hard Drives

Hot-Swappable hard drives in the enterprise NVR ensure that the recording is taking place 24x7 without switching off the recording device.

## Higher Storage:

The recording device supports a storage capacity of up to 144 TB as one can store upto 8 3.5"/ 2.5" SSD/HDD drives. Each slot can support a storage capacity of up to 18TB.

## Higher Throughput

Enterprise Network Video Recorders offer a throughput capacity of 512Mbps uplink as well as downlink which makes streaming video footage on live view easier.

## Integration:

Integrates with Matrix SAMAS IVA modules, SAMAS additional modules, Matrix COSEC server, Panel and I/O controllers, POS, and other third party IVA.

## Multi-Layer E-Map

Assign and monitor cameras, sensors, Matrix Access Control devices on various floors, and buildings on E-Maps. Use E-Map to check the video feeds, health status, and alarms of various cameras.

# NVR Selection Guide

		Extreme Series Network Video Recorders									
		NVR0801X	NVR1601X	NVR1602X	NVR3202X	NVR3204X	NVR6404X	NVR6408X	NVRX0801X P2	NVRX1601X P2	NVRX1602X P2
Video	IP Channels	8	16	16	32	32	64	64	8	16	16
	HDMI Main	1	1	1	1	1	1	1	1	1	1
Audio	Input	1	1	1	1	1	1	1	1	1	1
	Output	1	1	1	1	1	1	1	1	1	1
Alarm	Input	2	2	2	2	2	2	2	2	2	2
	Output	1	1	1	1	1	1	1	1	1	1
Storage	SATA Ports	1 (10TB each)	1 (10TB each)	2 (10TB each)	2 (10TB each)	4 (10TB each)	4 (10TB each)	8 (10TB each)	1	1	2
	RAID Support	Single Disk	Single Disk	RAID 0,1	RAID 0,1	RAID 0, 1,5,10	RAID 0, 1,5,10	RAID 0, 1,5,10	Single Disk	Single Disk	RAID 0,1
Interfaces	10/100/1000 Mbps Adaptive Interface	1	1	2	2	2	2	2	1	1	2
	USB Ports	3	3	3	3	3	3	3	3	3	3
Throughput		512Mbps, 256Mbps Uplink/ 256Mbps Downlink							360 Mbps, 180 Mbps/180 Mbps		

		Enterprise Network Video Recorders		
		NVR3208XCTS	NVR6408XCTS	NVR12808XCTS
Video	IP Channels	32	64	128
	HDMI Main	-	-	-
Audio	Input	1	1	1
	Output	1	1	1
Alarm	Input	Connect via. COSEC PANEL LITE + ARC I/O 800 Controller		
	Output			
Storage	SATA Ports	8 (18TB each)	8 (18TB each)	8 (18TB each)
	RAID Support	RAID 0,1,5,10	RAID 0,1,5,10	RAID 0,1,5,10
Interface	10/100/1000 Mbps Adaptive	5 (4 - LED Indication, 1 - Server Management)		
	USB Ports	5	5	5
Throughput		512Mbps Uplink/ 512Mbps Downlink		

## SIGHT: NVR Mobile Application

SIGHT is a mobile application for Matrix NVR direct users without any server or software. SATATYA SIGHT offers following features:

- Live and Playback Views
- Simultaneous View of up to 16 Streams
- Manage up to 50 NVRs
- Favorite Channel
- Two Way Audio
- Call Button for every channel
- Digital Zoom
- PTZ Controls
- Mainstream and Substream
- Android, iOS and Windows



## SATATYA NETRA - IP CAMERAS

Matrix offers best-in-class IP cameras specifically designed and built for demanding enterprise and project applications. In addition to superior image quality, these feature packed cameras offer Multiple Streams, Video Analytics and Edge Recording. Matrix IP cameras include dome, bullet and PTZ variants, suitable for both - outdoor and indoor applications.

### IP Cameras Differentiators

#### Complete Range

Matrix IP camera range includes variants in Dome, Bullet, and PTZ categories. Dome and Bullet variants are available in 2MP, 5MP, and 8MP\* resolutions; offered in fixed and motorized lenses.

#### Sony STARVIS Sensor

Equipped with back illuminated Sony STARVIS sensors, Matrix cameras offer crystal clear night vision with color images even in ultra low light conditions up to 0.01 lux.

#### True Color Imaging

Matrix cameras use higher MTF lenses offering true colors and sharper images.

#### True WDR

Powerful image processor rectifies overexposed and underexposed areas and delivers clearer images.

#### Field of View

Matrix IP cameras capture wider field of view covering larger areas with fewer cameras.

#### Smart Streaming

Allows defining different image quality for different regions based on their importance.

#### Adaptive Streaming

Matrix cameras intelligently switch to lower bitrate and FPS during non-activity periods to conserve bandwidth and storage.

#### Quad Streams

Recognizing the need for multiple streams for different usages such as recording, local view, mobile, etc., Matrix cameras offer up to four simultaneous streams.

#### Region of Interest

Streams only the specified area from the entire image to zoom-in and to optimize bandwidth and storage.

#### H.265 Compression

New generation encoding reduces up to 50% of bandwidth and storage.

#### Video Analytics on the Edge

Matrix IP camera offers intelligent analytics including People Counting, Motion Detection, Trip Wire, Tamper Alert, etc. for real-time detection of events.

#### Edge Recording

With capacity to store videos in its 512GB SD card, Matrix cameras are ideal for many standalone applications. Moreover, edge recording can also be useful during network or server brownouts.

#### Instant Notifications

Matrix cameras offer SMS, Email with Snapshot, Upload Image/Clip, Alarms with Pre/Post Recording, and Schedule Snapshot.

#### Two Way Audio

Using built-in audio-in and audio-out ports, connect mic and speaker to capture audio, listen live, record audio and to talk or make announcements from your PC, tablet or mobile.

#### Camera Initiation

Matrix NVR/ SAMAS accepts cameras registration request. Static IP is not required. An IP camera automatically initializes request to connect to the NVR/ SAMAS.

### Plug-n-Play

Camera DHCP client searches and fetches IP address. Matrix NVR searches for cameras and assigns predefined IP addresses and configures the cameras.

### Matrix DNS

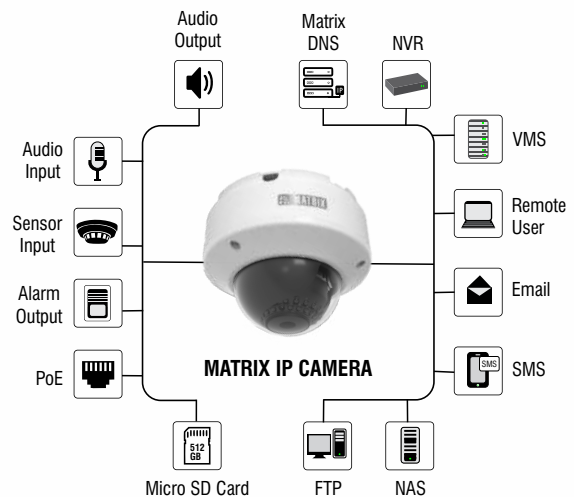
NVRs and cameras can register their customized domain names on Matrix DNS which their clients can access for viewing and configuration.

### Certification

Matrix IP cameras meet national and international certification standards including IK10\*, IP67\*, IP66, CE, FCC, BIS, and ROHS\*

**\*Note:** a. Certifications may vary from variant to variant\*  
b. Lens type may vary from variant to variant\*

## IP Camera Connectivity



## MATRIX PAN-TILT-ZOOM (PTZ) CAMERAS

Matrix introduces a new range of IP cameras that are designed for 360° surveillance. Matrix Pan-Tilt-Zoom cameras have been created for monitoring large spaces without the need for installing multiple cameras. The cameras offer flexibility while monitoring with superior performance. Designed to cater to the needs of modern enterprises, these devices not only offer exceptional video footage quality but also can monitor the premises in harsh environments. MATRIX PTZ cameras provide the functionality of Pan speed @180°/s, Tilt speed @180°/s, and Zooming <4° from wide-angle view to focusing on the object in the distance which provides the functionality of 360° surveillance useful for versatile Video Surveillance applications. The cameras are offered in 2MP resolution with two variants: 33x Optical Zoom and 25x Optical Zoom.

## PTZ Differentiators

### Revolutionary Night Performance

The infrared sensors offer revolutionary night vision and superior image quality upto 300 meters.

### 42x Optical Zoom

The optical zoom-in cameras allow the user to zoom in on the image without changing the image resolution and lets the user focus on the details by removing the unwanted background.

### 500 Presets

Allows the user to set a particular position of the camera by a single click by setting parameters such as focal length and angle of inclination. The user can set 500 preset positions in the camera.

### 8 Auto Scan

Setting limit between the left and right side positions of the camera. The camera automatically scans between left and right positions.

### Privacy Mask

Mask upto 24 regions in existing coverage of the camera to restrict visibility in the live view or recording of sensitive areas.

## Matrix IP Camera Range - 8MP, 5MP, 2MP, PTZ Series



CIBR: Project Series Bullet



MIBR: Professional Series Bullet



CIDR: Project Series Dome



MIDR: Professional Series Dome



SATATYA PZCR50ML42CWP



SATATYA PZCR20ML33CWP



SATATYA PZCR20ML25CWP



TURRET SERIES

Upcoming Matrix IP Camera  
Range - **Turret Series**

## IP CAMERA SELECTION GUIDE

BULLET	DOME	RESOLUTION	LENS	FOCAL LENGTH	2-WAY AUDIO	DIGITAL I/O	IR RANGE	STREAMS
PROJECT SERIES BULLET/DOME PREMIUM AND STANDARD								
CIBR80FL36CWP	CIDR80FL36CWP	8MP	Fixed	3.6mm	✓	✓	Up to 50m	4
CIBR80FL60CWP	CIDR80FL60CWP	8MP	Fixed	6mm	✓	✓	Up to 50m	4
CIBR80FL36CWS	CIDR80FL36CWS	8MP	Fixed	3.6mm	—	—	Up to 50m	4
CIBR80FL60CWS	CIDR80FL60CWS	8MP	Fixed	6mm	—	—	Up to 50m	4
CIBR50FL28CWP	CIDR50FL28CWP	5MP	Fixed	2.8mm	✓	✓	Up to 50m	4
CIBR50FL40CWP	CIDR50FL40CWP	5MP	Fixed	4mm	✓	✓	Up to 50m	4
CIBR50FL60CWP	CIDR50FL60CWP	5MP	Fixed	6mm	✓	✓	Up to 50m	4
CIBR50MVL12CWP	CIDR50MVL12CWP	5MP	MVF	2.8mm-12mm	✓	✓	Up to 50m	4
CIBR50FL28CWS	CIDR50FL28CWS	5MP	Fixed	2.8mm	—	—	Up to 50m	4
CIBR50FL40CWS	CIDR50FL40CWS	5MP	Fixed	4mm	—	—	Up to 50m	4
CIBR50FL60CWS	CIDR50FL60CWS	5MP	Fixed	6mm	—	—	Up to 50m	4
CIBR50VL12CWS	CIDR50VL12CWS	5MP	VF	2.8mm-12mm	—	—	Up to 50m	4
CIBR20FL28CWP	CIDR20FL28CWP	2MP	Fixed	2.8mm	✓	✓	Up to 50m	4
CIBR20FL36CWP	CIDR20FL36CWP	2MP	Fixed	3.6mm	✓	✓	Up to 50m	4
CIBR20FL60CWP	CIDR20FL60CWP	2MP	Fixed	6mm	✓	✓	Up to 50m	4
CIBR20MVL12CWP	CIDR20MVL12CWP	2MP	MVF	2.8mm-12mm	✓	✓	Up to 50m	4
CIBR20FL28CWS	CIDR20FL28CWS	2MP	Fixed	2.8mm	—	—	Up to 50m	4
CIBR20FL36CWS	CIDR20FL36CWS	2MP	Fixed	3.6mm	—	—	Up to 50m	4
CIBR20FL60CWS	CIDR20FL60CWS	2MP	Fixed	6mm	—	—	Up to 50m	4
CIBR20VL12CWS	CIDR20VL12CWS	2MP	VF	2.8mm-12mm	—	—	Up to 50m	4
PROFESSIONAL SERIES BULLET/DOME PREMIUM AND STANDARD VARIANTS								
MIBR80FL36CWP	MIDR80FL36CWP	8MP	Fixed	3.6mm	✓	—	Up to 30m	4
MIBR80FL60CWP	MIDR80FL60CWP	8MP	Fixed	6mm	✓	—	Up to 30m	4
MIBR80FL36CWS	MIDR80FL36CWS	8MP	Fixed	3.6mm	—	—	Up to 30m	4
MIBR80FL60CWS	MIDR80FL60CWS	8MP	Fixed	6mm	—	—	Up to 30m	4
MIBR50FL28CWP	MIDR50FL28CWP	5MP	Fixed	2.8mm	✓	—	Up to 30m	4
MIBR50FL40CWP	MIDR50FL40CWP	5MP	Fixed	4mm	✓	—	Up to 30m	4
MIBR50FL60CWP	MIDR50FL60CWP	5MP	Fixed	6mm	✓	—	Up to 30m	4
MIBR50FL28CWS	MIDR50FL28CWS	5MP	Fixed	2.8mm	—	—	Up to 30m	4



BULLET	DOME	RESOLUTION	LENS	FOCAL LENGTH	2-WAY AUDIO	DIGITAL I/O	IR RANGE	STREAMS
MIBR50FL40CWS	MIDR50FL40CWS	5MP	Fixed	4mm	—	—	Up to 30m	4
MIBR50FL60CWS	MIDR50FL60CWS	5MP	Fixed	6mm	—	—	Up to 30m	4
MIBR20FL28CWP	MIBR20FL28CWP	2MP	Fixed	2.8mm	✓	—	Up to 30m	4
MIBR20FL36CWP	MIBR20FL36CWP	2MP	Fixed	3.6mm	✓	—	Up to 30m	4
MIBR20FL60CWP	MIBR20FL60CWP	2MP	Fixed	6mm	✓	—	Up to 30m	4
MIBR20FL28CWS	MIBR20FL28CWS	2MP	Fixed	2.8mm	—	—	Up to 30m	4
MIBR20FL36CWS	MIBR20FL36CWS	2MP	Fixed	3.6mm	—	—	Up to 30m	4
MIBR20FL60CWS	MIBR20FL60CWS	2MP	Fixed	6mm	—	—	Up to 30m	4
<b>PAN-TILT-ZOOM SERIES</b>								
PZCR50ML42CWP		5MP	MVF	7mm-300mm	✓	✓	300m	3
PZCR20ML33CWP		2MP	MVF	4.6mm-152mm	✓	✓	200m	3
PZCR20ML25CWP		2MP	MVF	4.8mm-120mm	✓	✓	150m	3
Note: <b>P</b> : Premium; <b>S</b> : Standard; <b>MVF</b> : Motorized Varifocal; <b>VF</b> : Varifocal								



## MATRIX SATATYA CUSTOMERS

### CORPORATE

- Samsung C&T
- TCS Technology
- SGI Corp
- Tata Technologies
- Raymond
- Jaypeekint Lab
- COX & KINGS
- Honda Trading Corporation
- Rustom Jee
- Sterlite Technology
- Coromandel Fertilizer

### GOVERNMENT

- Indian Railways
- Indian Air Force
- NTPC
- Patna Airport
- Bhubaneswar Airport
- NSTL
- Nashik Railways

### EDUCATION

- IIT
- RBK International School
- NIFT
- Chitkara Group of Institute
- GITAM University
- GMERS College

### HOSPITALITY

- Hotel Royal Park
- Taj Group
- Taj Vivanta

### MANUFACTURING

- Godrej Ware House
- Tata Motors
- Tata Chemicals
- General Electronics
- Schneider Electric
- Colourtex
- Yamaha Motors
- Jasani
- Cooper Corporation

### MEDIA

- Network 18
- Times of India
- Matrimony.com
- Ramoji Film City

### OTHERS

- Lenskart
- Tanishq
- Sanofi Pharma
- Deccan Chemicals
- Raheja Hospital
- NESCO
- BTI Payments
- Dnata Group
- Haldiram
- Ramdev Masala
- NSEIT
- Vedanta Group
- HEG
- AWHO Township

## ABOUT MATRIX

Established in 1991, Matrix is a leader in Security and Telecom solutions for modern businesses and enterprises. An innovative, technology driven and customer focused organization the company is committed to keep pace with the revolutions in the Security and Telecom industries. With around 40% of its human resources dedicated to the development of new products, Matrix has launched cutting-edge products like Video Surveillance Systems - Video Management Software, Network Video Recorder and IP Camera, Access Control and Time-Attendance Systems as well as Telecom Solutions such as Unified Communications, IP-PBX, Universal Gateways, VoIP and GSM Gateways and Communication Endpoints. These solutions are feature-rich, reliable and conform to the international standards. Having global footprints in Asia, Europe, North America, South America and Africa through an extensive network of more than 2,500 channel partners, Matrix ensures that the products serve the needs of its customers faster and longer. Matrix has gained trust and admiration customers representing the entire spectrum of industries. Matrix has won many international awards for its innovative products.



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