



## **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.

Matrix offers a range of video surveillance solutions that are specifically engineered for serious deployments. It caters to standard video surveillance functions like video capturing, recording, streaming, playback, and investigation along with advanced solutions like centralization, video analytics, and command and control. Industry-specific solutions like parking management and weighbridge management significantly improve efficiency. Cognitive Response Engine helps automate routine surveillance activities and minimizes lapses due to human error.

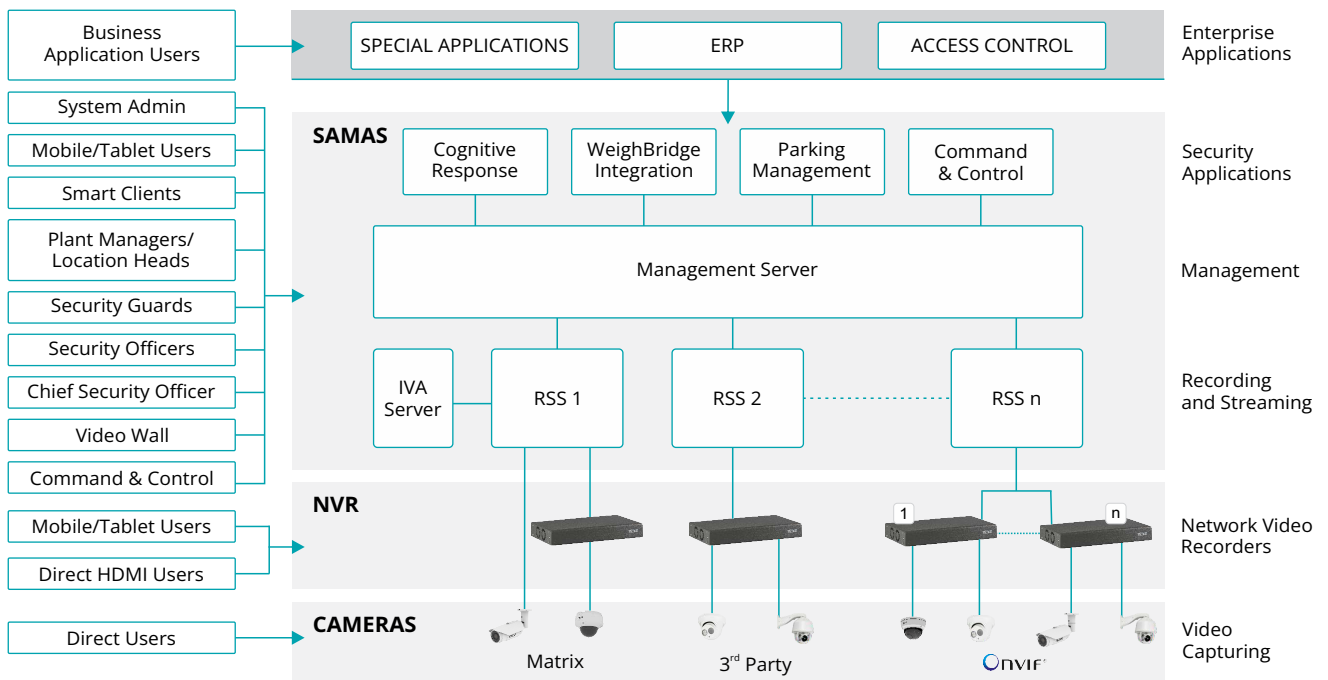
Matrix SATATYA family includes enterprise-grade Video Management Software (VMS), Network Video Recorders (NVRs), Enterprise Network Video Recorders (ENVRs), and IP Cameras. Designed with an emphasis on centralized visibility and preventive security, Matrix SATATYA truly addresses the security, safety, productivity, and compliance needs of modern organizations.

# SATATYA INTRODUCTION


Matrix SATATYA is a family of enterprise-grade video surveillance products and solutions including IP Cameras, Network Video Recorders (NVR), Enterprise Network Video Recorders (ENVRs), and Video Management Systems (VMS). SATATYA offers the following functions:

 Video Recording	 Video Streaming	 Playback and Investigation	 Centralization
 Command and Control	 Intelligent Video Analytics	 Notifications and Alarms	 Storage and Backup
 User Defined Roles and Responsibilities	 Fire Alarm Integration	 Access Control Integration	 Parking Management
 Weighbridge Integration	 Cognitive Response Engine with Automated Response		

## SATATYA ARCHITECTURE



## SATATYA DIFFERENTIATORS

 <p><b>Centralized Video Surveillance</b></p> <ul style="list-style-type: none"> <li>Monitoring Multiple Locations Centrally</li> <li>Better Situational Awareness and Response Time</li> <li>Better Decision Making and Reduced Security Lapses</li> </ul>	 <p><b>Organization-wide Visibility and Control</b></p> <ul style="list-style-type: none"> <li>View Events Instantly from Multiple Locations</li> <li>Better Response Time</li> <li>Proactive Surveillance</li> </ul>
 <p><b>Complete Product Portfolio</b></p> <ul style="list-style-type: none"> <li>IP Cameras, NVRs, ENVRs, VMS</li> <li>All Surveillance Requirements from One Source</li> <li>Seamless Integration and Symbiotic Interworking</li> </ul>	 <p><b>User-based Roles and Responsibilities</b></p> <ul style="list-style-type: none"> <li>It can be Customized to Match the Hierarchy of the Organization</li> <li>Helps Define Rights Based on User Profile</li> <li>Better Control over Cameras View and Playback Rights</li> </ul>
 <p><b>Scalable</b></p> <ul style="list-style-type: none"> <li>Expandable up to 65,535 Cameras</li> <li>10,000 Locations</li> <li>1000 Concurrent Users</li> </ul>	



### Cognitive Response Engine with Automated Monitoring (CREAM)

- Automates Routine Surveillance Workflow and Activities
- Allows Creation of Customized Scenarios with Input Triggers, Real-time Analysis, and Desired Responses
- Preventive Security with Consistent Response
- Overcomes Human Constraints, Lapses, and Delays



### Video Analytics

- Cameras Offer Analytics on the Edge
- RSS (Recording and Streaming Server) Works with Matrix IVA Server or Third-party IVA Servers.
- Offers Benefits of Automation and Preventive Security

## OTHER AMAZING FEATURES



### Cutting Edge Technologies

- Latest Technologies for Better Surveillance
- H.265 Codec, 4K, and 0/1/5/10 RAID support



### Redundancy

- 3 Network Redundancy
- Recording of Failover Server (N+1)
- For Seamless Capturing of Data



### Integration

- Access Control, Fire, Weighbridge
- Ease of Use and Enhanced Productivity



### Platforms

- Supports Diverse Devices and Clients
- Video Walls, TV Screens, PC/Laptops, and Mobiles



### Interoperability

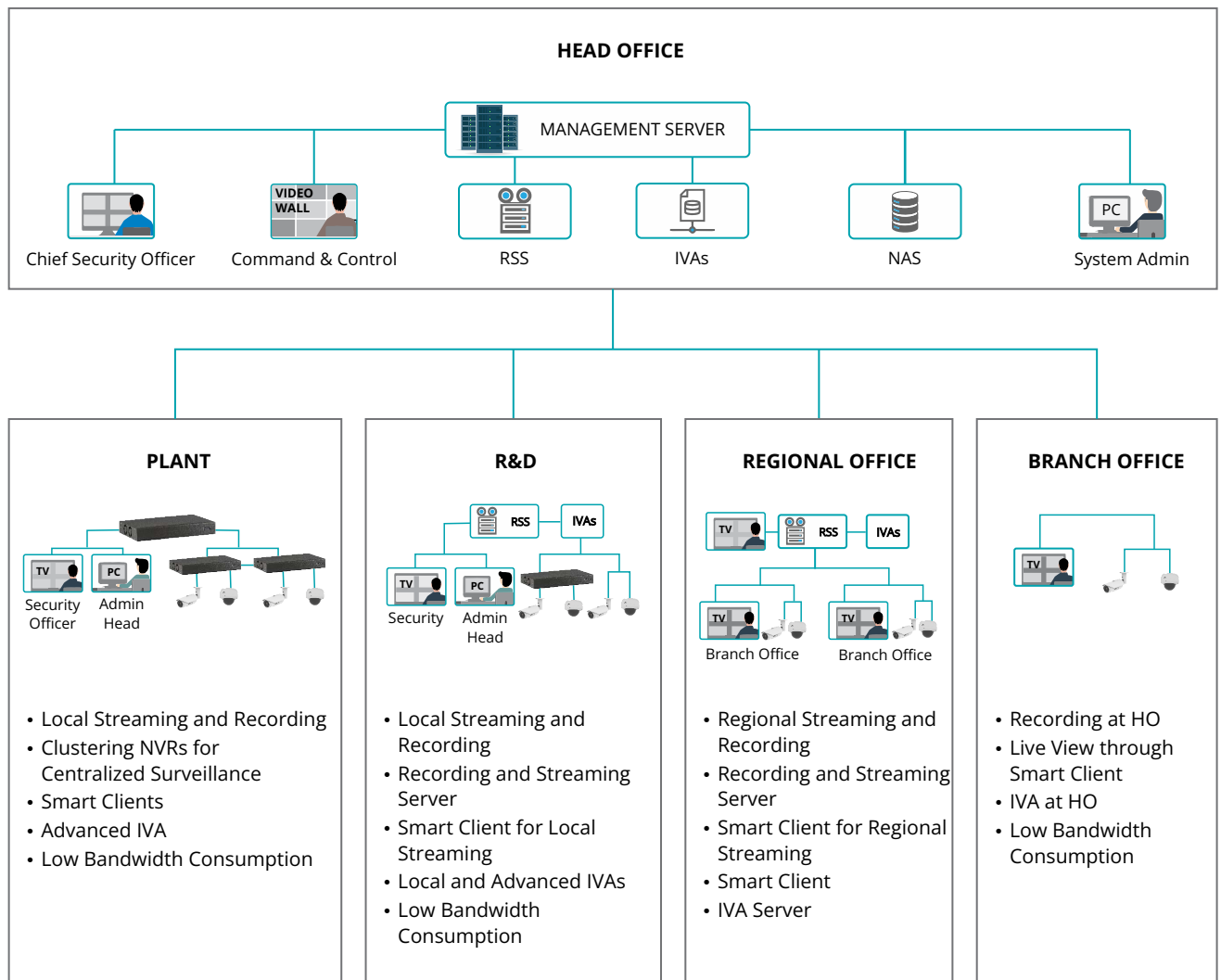
- Open Interfaces for Cameras, NVRs, ENVRs, VMS, and Other Surveillance Applications
- Open Protocols such as ONVIF, TCP-based APIs, and Database Integration



### Multilevel Recording with Auto Sync

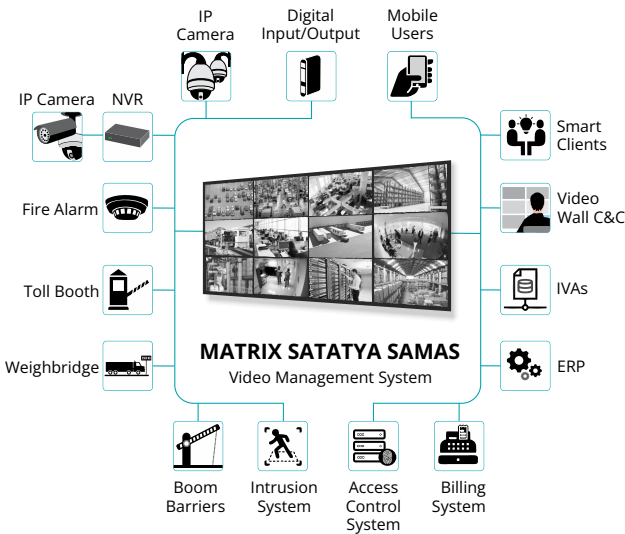
- Ensures Video Data is Available when Required
- All Building Blocks are Validated on the "Test to Fail" Philosophy
- Anomaly and Fault Detection to Predict and Prevent Failure

## SATATYA DEPLOYMENT



## SATATYA SAMAS - VIDEO MANAGEMENT SYSTEM

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, Fire Alarms, ERP Systems and Boom Barriers.

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 integrates with 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



### Centralized Monitoring and Control

- Monitoring Multiple Locations Centrally
- Can Match any Organization Structure and Hierarchy
- Better Situational Awareness and Quick Response Time
- Better Decision Making
- Reduced Security Lapses



### Scalable to Meet Future Requirements

- Expandability of up to 65,535 Cameras
- Can Connect up to 10,000 Locations/Recording Servers
- Up to 1000 Concurrent Users
- SAMAS Can be Hosted on Private and Public Cloud
- Meets Current and Future Surveillance Requirements of Large Organizations



### Command and Control

- Video Walls, Hierarchical eMaps, Bookmarks, Evidence Locks, and many more
- Multi-layer E-map to Navigate Between Buildings, Floors, and Camera
- Monitor Cameras and Sensors Placed in
- Organizational Layout with Notifications
- Ease of Use, Prompt Navigation, and Timely Notification
- Empowered Decision Making and Better Response Time



### Optimize Bandwidth and Storage

- Configure Different Stream Profiles for Different Usage
- Recording, Local, and Mobile View to Optimize Bandwidth
- Configure Different Profiles for Different Usage



### Redundancy

- Flexibility to Deploy Failover Servers at Critical Locations
- **Server Redundancy:** Deploy Multiple RSS
- **Network Redundancy:** Configure Multiple ISPs
- **Edge Recording:** Local Recording in Case of Network Failure
- **Camera Initiation:** Cameras Communicate with RSS and NVRs Allowing Auto-sync



### Integrated Video Surveillance

- Single Platform for all Security Devices
- Supports Matrix and Third Party ONVIF Supports Cameras
- Integration with CCTV, Fire Alarms, Sensors, and Access Control
- End-to-end Control of all Peripheral Security Devices
- API Integration with Matrix Access Control System



### User-Based Roles and Rights

- Define Rights Based on User Profile
- Better Control over Cameras View and Playback Rights
- Enhanced Privacy and Security
- The User can Define their Own Events and Trigger
- Better Decision Making and Response



### Enterprise Intelligent Video Analytics

- License Plate Recognition (LPR)
- Motion and No-motion Detection
- Tripwire, Camera Tampering, Intrusion, Tailgating, Object Missing
- Advanced Solutions - Weighbridge, ANPR, and Parking Management
- Eliminates Human Lapses

## OTHER AMAZING FEATURES



### Health Status

- Monitors the Health Status of Servers, NVRs, Cameras, Storage, and Sensors
- Proactive upkeep and Maintenance of the Devices



### Multilingual

- Multi-language Support - English, Spanish, French, and many more
- It is easy to add a New Language if Needed



### Global Search

- Searches and Fetches Footage from RSS, Camera, NVR, Backup, and Archive
- Searches Footage based on Date-time, Interval, and Source



### Powerful Investigator

- Investigates Videos Using Selected Video Analytics
- Saves Time and Effort in Searching



### Manual and Auto Clip Export

- Export or Mail Video Clips in any Popular Format
- Option to create Manually or Automatically when Triggered by Events



### Day Highlight

- Creates a Summary File based on Events or Time
- Accessible to View the Daily Events



### Time Lapse

- RSS Creates Time Lapse Files by Reducing Frames from Video Feeds
- Aids in Quick Overview of Large Files



### Reports and Analysis

- Reports and Event Logs for in-depth Analysis and MIS
- Enhanced Security and Operational Insights



### Two-way Audio

- Use Smart-client Audio I/O Ports to Connect Mic and Speaker
- Live Listening and Making Announcements



### Retrieve Edge Data

- RSS Retrieves Data From the Edge Device when Brownouts Occur
- Ensures that all Data is Recorded



### Alerts and Notifications

- Multiple Options - Video Pop-up, Email with Snapshot, Audio Alarm Buzzer, and SMS
- Real-time Alerts for Improved Efficiencies



### Playback and Investigation

- Event-Triggered Evidence Clip from Edge Device to Smart Client
- Evidence Lock Restricts Deletion or Overwriting of Important Video Evidence By Defining Locking Period



### Open Architecture

- Easy to Upgrade Existing Infrastructure
- Optimization of the Current Surveillance Infrastructure
- Supports Matrix Cameras, Third Party IP Cameras, and ONVIF Cameras



### Device Initiation

- Connects with All Matrix NVRs and Cameras with a Static IP Address
- Overcomes Connectivity Issues



### Camera-wise Recording and Backup Days

- Define Separate Retention Days for Separate Cameras
- Better Control over the Surveillance Infrastructure



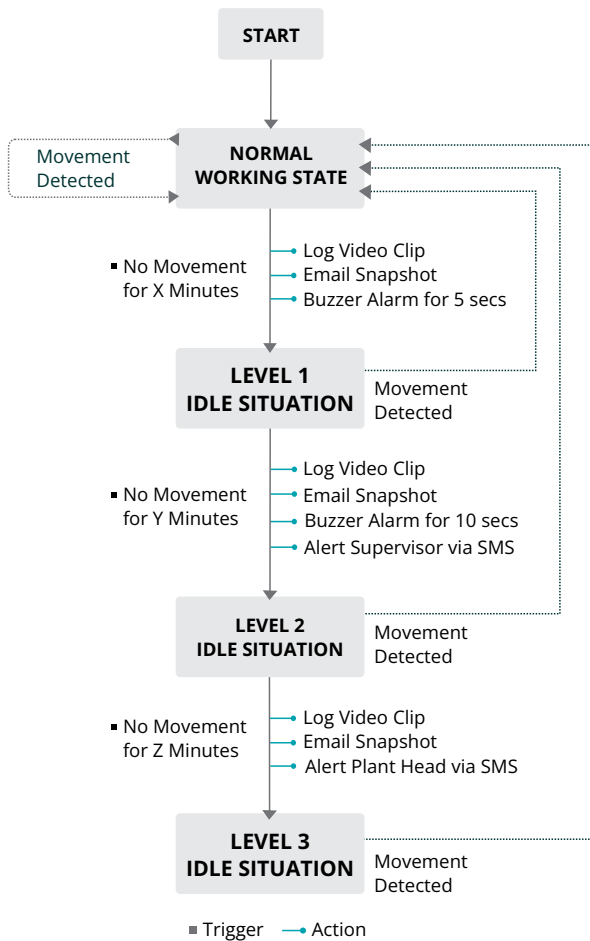
### Two-Level Archiving

- Level 1 Creates an Exact Copy and Level 2 Removes P frames and Audio
- Optimization of Storage While Creating Backups

## 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.

### CREAM State Flow



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

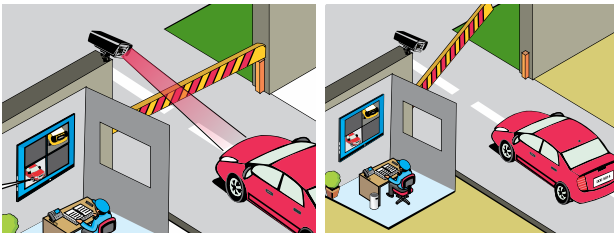
## SAMAS VEHICLE TRACKING AND PARKING MANAGEMENT (VTPM)

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.

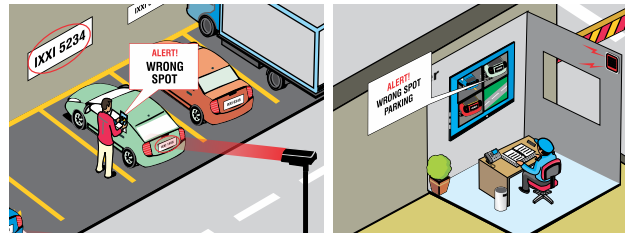
### Parking Management Features

- 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

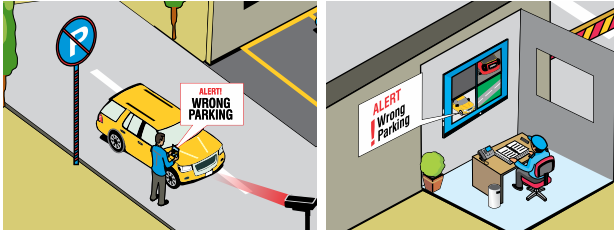
## Entry or Exit of Vehicles



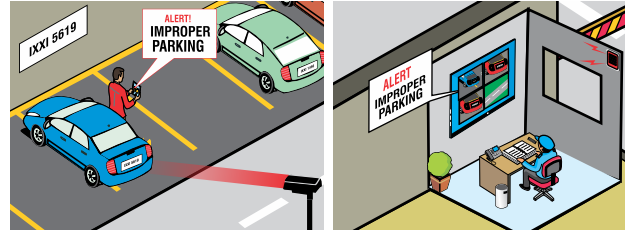
## Unauthorized Parking



## No Parking



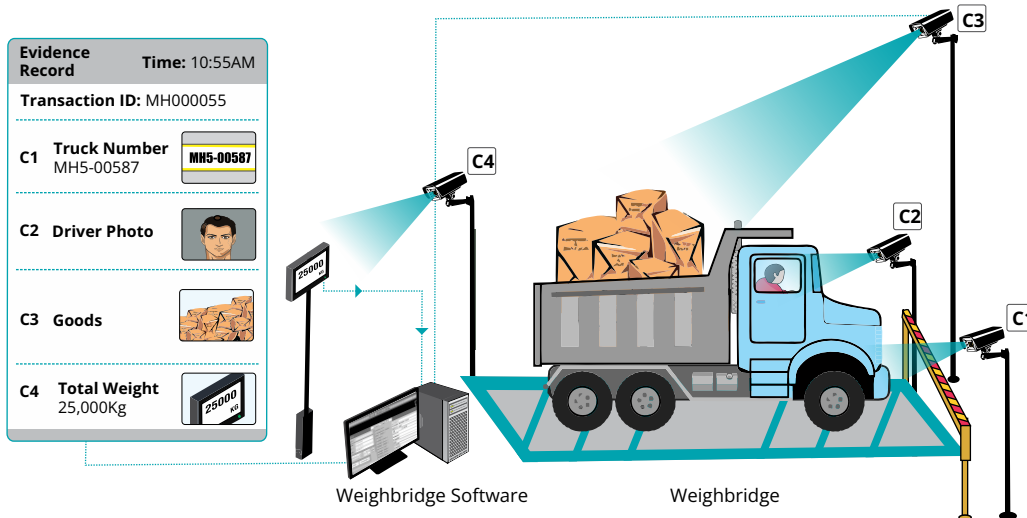
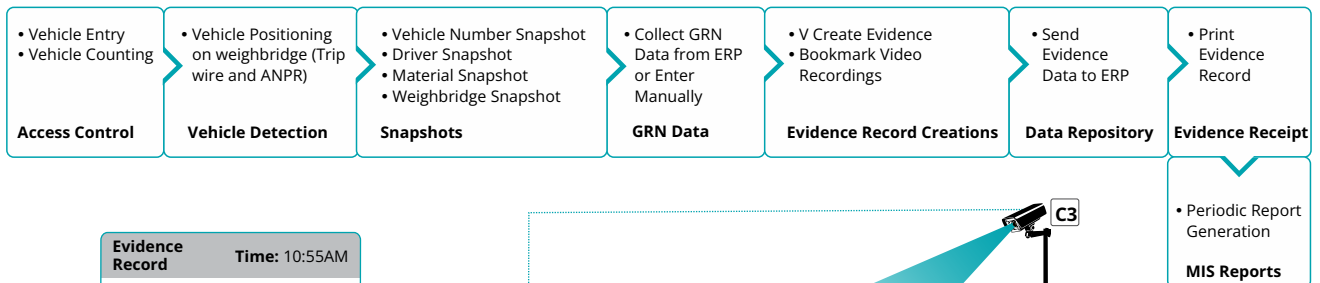
## Improper Parking



## 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

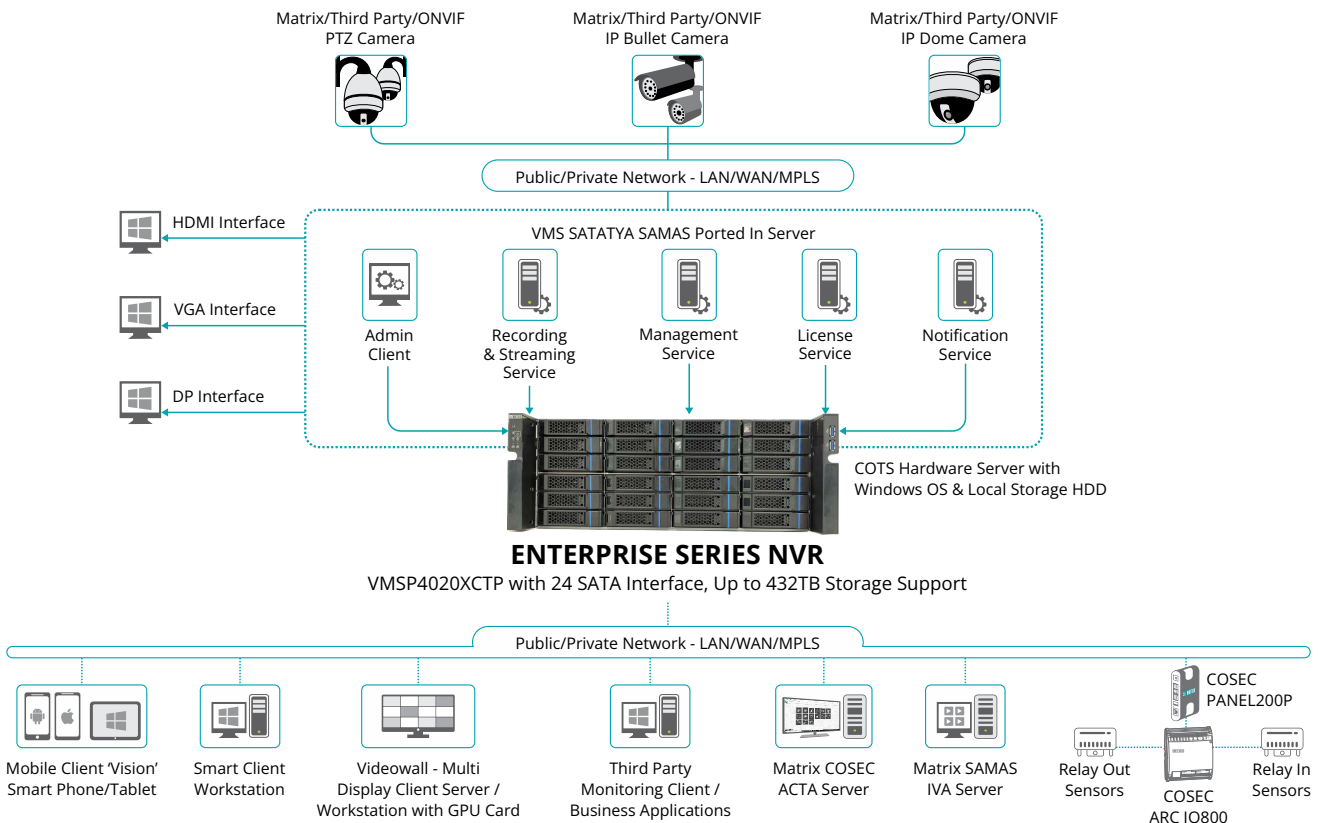
	Maximum No.
Cameras/ Recording Servers	65,535
Cameras Per Recording Server	255
Concurrent Users Supported	1,000
Recording Servers / Locations Supported	10,000
License is not required for Recording and Streaming Servers(RSS)	

## SATATYA VIDEO MANAGEMENT SOFTWARE PLATFORM (VMSP) - Enterprise Network Video Recorders

Matrix Video Management Software Platform (VMSP) is an Enterprise-grade Network Video Recorder, a turnkey solution for medium and large enterprises. It comes pre-loaded with Matrix SATATYA SAMAS - Video Management Software, Operating System, and Database.

With three variants offering 08/16/24 SATA Interface, it supports up to 255 IP channels and has a maximum storage capacity of up to 432TB (18TB/SATA Port).

This server-based Network Video Recorder can be configured to provide advanced surveillance solutions including Parking Management, Weighbridge Integration, and Integration with Matrix Access Control.



## VMSP DIFFERENTIATORS



### Turnkey VMS Solution

- Network Video Recorders Preloaded with Video Management System (VMS), OS, and DB
- Comes with SATATYA SAMAS Platform License and Built-in License Dongle
- Single System for Video Recording, Storage, and Surveillance Management
- Enterprise-Grade Server-based Turnkey Video Surveillance Solution
- No Need to Invest Separately in a Server and VMS



### Advanced Technologies

- **Operating System:** Microsoft Windows 10 IoT Enterprise LTSC HIGH END
- **Event Database:** Microsoft SQL Server Express Edition
- **Graphic Card (In-Built):** GPU GTX1650 4GB GDDR6 (Variant-specific)
- 3rd Gen Intel Xeon 6 Core/ 16 Core Processor (Variant-specific)





### Integration and Interoperability

- ONVIF Profile S and G Conformant
- Integrates with Matrix IP Camera, Third Party, and ONVIF Support Camera
- **Seamless Integration** - Access Control Devices, Fire Alarms, Sensors, and many more
- **Advance Solutions** - Parking Management, Weighbridge Integration, and many more
- Ease of Setting Up



### 255 Channels and 432TB Storage

- Up to 255 Channel Support on a Single Platform
- High Storage Capacity of 432TB (18TB per SATA Port)
- Ample Storage to Record and Store HD and UHD streams
- Hardware RAID 0/1/5/6/10/50/60 Support



### Perceptive Monitoring

- Multi-layer E-map to Navigate Between Buildings, Floors, and Camera
- Powerful Smart Search and Investigator
- Evidence Lock and Bookmark for Better Handling and Storage of Evidence
- Convenient Playback and Investigation



### Redundant Network Support

- Failover ISP Support for Communication
- Ensures Connectivity in case of Network Failure



### Redundant Storage

- Fault Tolerance Recording at u-SD Card
- Three Levels of Effective Storage Management - Primary and Two Levels of Backup
- Hot Swappable Front HDD Bay
- Reliable and Easy Maintenance



### Redundant Power Supply

- Redundant and Hot-plug Dual Power Supply
- Uninterrupted Surveillance in case of Power Failure



### Redundant Recording and Storage Support

- N:1 Redundant/ Failover Recording Server for Continuous Operation in Case of Recording Server Failure
- Fault-tolerant Recording at SD Card Combats Storage-related Disruption



### Higher Throughput

- Seamless Streaming of up to 12MP Ultra High-resolution Video
- 4K Resolution for Both Live view and Playback



### Time Lapse and Day Highlight Recording

- Convenient Playback of Snapshots
- Allows Checking Progress of Years in Minutes

## VMSP SELECTION GUIDE

VMSP	Video		Storage			RAID Support
	IP Channels	Display	Chassis	SATA 3.0 Interface	Max Storage	
<b>VMSP2020XCTP</b>	Up to 255	1 x HDMI On Board	2U	8 (18TB Each)	144TB	RAID 0/1/5/6/10/50/60
<b>VMSP3020XCTP</b>	Up to 255	1xHDMI 1xVGA 1xDP 1xDVI-D	3U	16 (18TB Each)	288TB	RAID 0/1/5/6/10/50/60
<b>VMSP4020XCTP</b>	Up to 255	1xHDMI 1xVGA 1xDP 1xDVI-D	4U	24 (18TB Each)	432TB	RAID 0/1/5/6/10/50/60

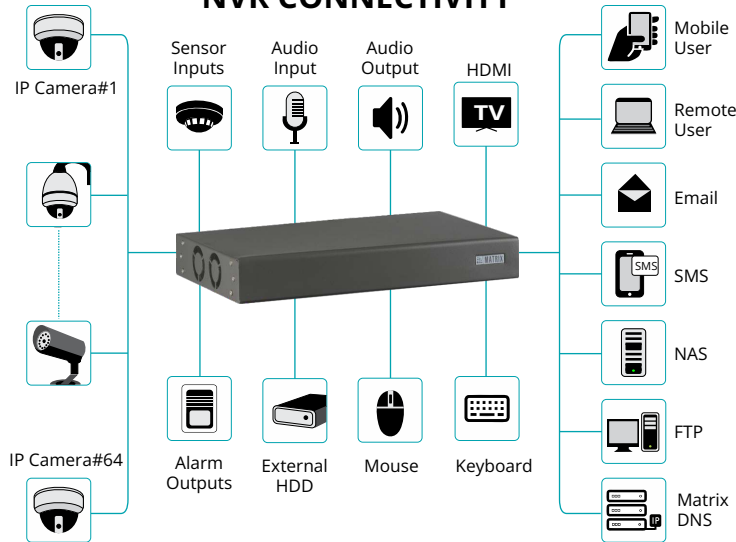
## SATATYA - EXTREME SERIES NETWORK VIDEO RECORDERS (NVRX)

Matrix's Extreme Network Video Recorder (NVRX) range records high-resolution images captured by 5MP and 8MP cameras. The unique clustering feature allows centralized video surveillance of multi-site offices without investing in VMS and Servers.

Matrix NVRs come with 8/16/32/64/96 Channels and a recording capacity of up to 144 TB (10TB/18TB per SATA port). They are designed to comply with strict international standards - CE, FC, BIS, and RoHS making it a reliable partner for 24x7x365 video surveillance.



## NVR CONNECTIVITY



## NVRX DIFFERENTIATORS



### Clustering

- Links up to 20 NVRs Using a Master and Slave Configuration
- Monitor 1000+ Cameras from a Central Location
- View Real-time Footage of any Camera Attached to any NVR in the Loop
- Saves VMS Cost and Server Cost
- Ideal Solution for SMEs, Railways, Airports, and many more



### Adaptive Recording

- Detects Motion/No-motion
- Switches the Keyframes According to the Scenario
- Delivers Smooth Streaming and Reduces Bandwidth Consumption
- Economizes Storage Space
- Longer Video Storage Time



### Ultra HD Recording

- HDMI 2.0 Interface and the Latest-generation Processor
- Ability to Transport and Decode 4K Video
- Ability to Record up to 12MP Cameras
- Allows Multiple User Logins
- Enhanced Security



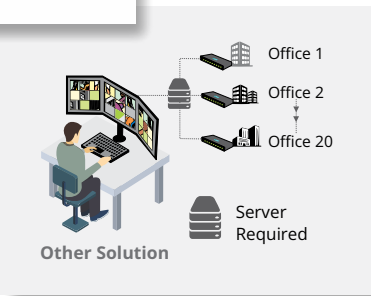
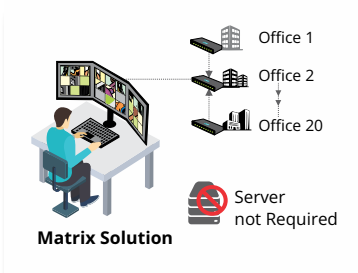
### RAID 0,1,5,10

- Logical Grouping of Multiple Disks into a Single Array
- Offers 0,1,5 and 10 RAID
- Assures Reliable Video Recording
- Ensures Redundancy in Video Storage
- Chances of Data Loss are Eliminated



### Camera Initiation

- Configuration Requests can be initiated from the Matrix Camera
- No Need to Access the NVR
- Ease of Use



## OTHER AMAZING FEATURES



### H.265 Compression

- With On-chip Hardware Compression
- H.265, H.264 and MJPEG



### Two Way Audio

- Built-in Audio I/O
- Capture Audio, Listen Live, or Make Announcements



### Instant Notifications

- SMS, Email, Email with Snapshot, Video Pop-up
- Quick Response Time
- Direct Call from Mobile



### TCP Notifications

- NVR Sends Alerts and Notifications Using Just 5Kbps Bandwidth
- Stay on Top even in Remote Locations with Limited Connectivity



### Higher Throughput

- Throughput of 512/360 Mbps
- Smooth Streaming Experience



### Camera Wise Recording

- Define Separate Retention Days for Each Camera
- Allocate Storage Space in the Order of Importance



### Storage

- Up to 80 TB Storage (10TB/SATA Port)
- Can Record Footage from 5MP and 8MP Cameras



### Integration

- Seamless Integration with Matrix VMS and Access Control Devices.
- Integrates Directly with Matrix Access Control



### Interoperability

- Support for Third Party Cameras via ONVIF
- Optimizes the Existing Security Infrastructure



### Plug and Play

- Automatically Searches IP Cameras, adds, assigns IP Addresses, and Configures with a Single Click

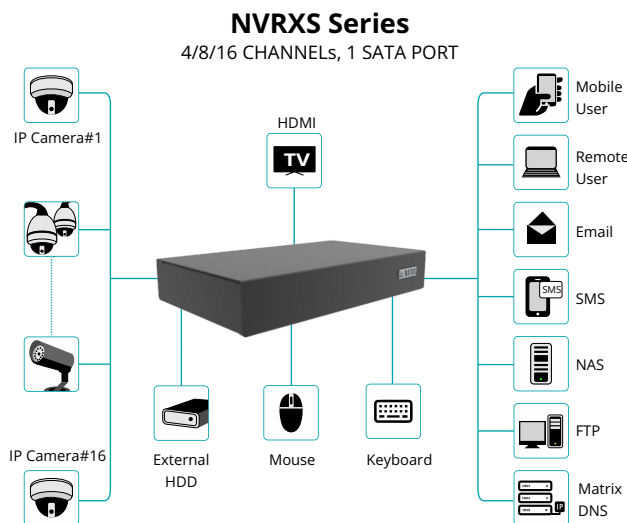


### Device Status

- Live Status Updates on Device Clients and Local Clients
- Camera Connectivity, Recording, Alarms, and PTZ Tour

## SATATYA - NETWORK VIDEO RECORDERS FOR SMALL BUSINESSES (NVR XS)

The latest addition to the range of Network Video Recorders is the NVR XS P2, these NVRs are compact and economic versions of NVRX. They are packed with all the features of their predecessors like clustering, adaptive recording, smart streaming, and many more. It is ideal for small businesses and retail houses that do not need fringes like audio and alarm support without compromising all the functionalities of Network Video Recorders.



### KEY FEATURES

- Fanless and Ventless Design to Ensure Reliability in Harsh Conditions
- 4/8/16 channel variants
- 1SATA port with up to 10TB data support
- 360 Mbps Throughput for Seamless Streaming



Clustering



Interoperability



Integration



Storage



Adaptive Recording



H.265 H.265 Compression



Instant Notifications



Plug and Play



Ultra HD Recording



360 Mbps Throughput



TCP Notifications



Device Status



Camera Initiation



Camera Wise Recording

## NVR/NVR XS Selection Guide

Extreme Series Network Video Recorders	Video		Audio		Alarm		Storage		Interfaces		Throughput
	IP Channels	HDMI Main	Input	Output	Input	Output	SATA Ports	RAID Support	10/100/1000 Mbps Adaptive Interface	USB Ports	
NVR0801X P2	8	1	1	1	2	1	1 (10TB each)	Single Disk	1	3	360 Mbps
NVR1601X P2	16	1	1	1	2	1	1 (10TB each)	Single Disk	1	3	360 Mbps
NVR1602X P2	16	1	1	1	2	1	2 (10TB each)	RAID 0,1	2	3	360 Mbps
NVR3202X P2	32	1	1	1	2	1	2 (10TB each)	RAID 0,1	2	3	512Mbps
NVR3204X P2	32	1	1	1	2	1	4 (10TB each)	RAID 0, 1,5,10	2	3	512Mbps
NVR6404X P2	64	1	1	1	2	1	4 (10TB each)	RAID 0, 1,5,10	2	3	512Mbps
NVR6408X P2	64	1	1	1	2	1	8 (10TB each)	RAID 0, 1,5,10	2	3	512Mbps
NVR9608X P2	96	1	1	1	2	1	8 (18TB each)	RAID 0, 1,5,10	2	3	1Gbps
NVRX0401XS P2	4	1	-	-	-	-	1 (10TB each)	Single Disk	1	2	360 Mbps
NVRX0801XS P2	8	1	-	-	-	-	1 (10TB each)	Single Disk	1	2	360 Mbps
NVRX1601XS P2	16	1	-	-	-	-	1 (10TB each)	Single Disk	1	2	360 Mbps

## SATATYA - 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, turret, PTZ variants, suitable for both - outdoor and indoor applications.

### IP CAMERA DIFFERENTIATORS



#### Complete Range

- **Type of Camera:** Dome, Bullet, PTZ, and Turret Cameras
- **Resolution:** 2MP/5MP/8MP
- **Type of Lens:** Fixed/Varifocal/Motorized Varifocal
- Customers get a Wide Range to Choose from Depending on their Requirements



#### Optimized Storage

- **Adaptive Streaming:** Cameras Switch to Lower Bitrate and FPS During No activity
- **Smart Streaming:** Define Different Image Quality for Different Regions Based on Importance
- **H.265 Compression:** Encoding Technology to Reduce up to 50% of Bandwidth and Storage
- Helps Conserve Bandwidth and Storage



#### 512 GB SD Card Support

- 512 GB SD Card Supports aids Many Standalone Applications
- Edge Recording in Case of Server or Network Brownouts
- Reliable Video Surveillance



#### Camera Initiation

- Matrix NVR/SAMAS Accepts Cameras Registration Request
- Static IP is not Required
- IP Camera Automatically Initializes Requests to Connect to the NVR/SAMAS



#### Sony STARVIS Sensor

- Equipped with Back-illuminated Sony STARVIS Sensors
- Crystal Clear Night Vision
- Color Images in Low Light Conditions up to 0.01 Lux



#### True WDR

- Powerful Image Processor
- Rectifies Over-exposed and Under-exposed Areas
- Delivers Clear and Sharper Images



#### Video Analytics on the Edge

- Offers Intelligent Video Analytics on the Edge
- Motion Detection, Trip Wire, Intrusion Detection, and more

## OTHER AMAZING FEATURES



### Field of View

- Larger Field of View
- Allows capturing Larger Areas with Fewer Cameras



### Quad Streams

- Up to Four Simultaneous Streams
- For Local View, Mobile View, Recording, and more



### Two Way Audio

- Inbuilt Audio Support in Premium Cameras
- Capture Audio, Listen Live, Record, and more



### Plug-n-Play

- Camera DHCP Client Searches and Fetches IP Addresses
- Matrix NVRs Assigns Predefined IP Addresses and Configure the Cameras



### Matrix DNS

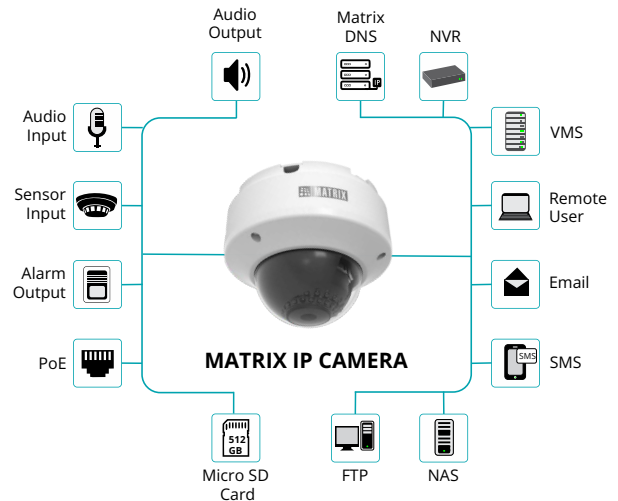
- NVRs and Cameras Register their Customized Domain Names on Matrix DNS
- The Clients can Access it for Viewing and Configuration



### Certification

- Matrix IP Cameras Conform with OWASP ASVS 4.0 L2, NEMA 4X, EN50155, IK10, IP67/IP66, CE, FCC, BIS and ROHS Standards
- Robust and Reliable Video Surveillance at all Times

## IP Camera Connectivity



## TURRET SERIES IP CAMERA

The Ball and Socket design of Turret Series IP Cameras allows for effortless maneuvering without the need to dismount the camera, facilitating the capture of images from any angle with ease. It has an external reset switch for easy maintenance. Additionally, the IR chambered glass helps cut the IR Glare and since it has very little glass surface chances of fingerprint print are quite low.

They are available in 2MP/5MP variants. Matrix is a 100% Make in India company with its products truly researched, designed, and manufactured in India. Matrix Turret Cameras are OWASP ASVS 4.0 L2 and NDAA Compliant.

## PAN-TILT-ZOOM (PTZ) CAMERAS

Matrix range of PTZ Cameras has been designed to monitor large spaces without the need for installing multiple cameras. The unique Pan and Tilt feature allows the cameras to do 360° Surveillance and the Zoom features will enable the detection of details from a distance. Loaded with features like moving to a particular preset position and easy integration through ONVIF makes it an ideal product for maximum protection.

The Cameras come in 2MP and 5MP resolutions. The 2MP cameras come with 33x and 25x Optical Zoom and the 5MP cameras come with 42x Optical Zoom.

## PTZ DIFFERENTIATORS



### Optical Zoom

- 2MP Cameras are Available with 25x and 33x Optical Zoom
- Improves the Extent of Detail Capture
- Enables Focusing on Details from a Distance



### High Field of View

- 360° View with the Pan and Tilt Feature of the Camera
- 25x/33x Optical Zoom, and 16x Digital Zoom
- Suitable for Areas that Require Wide Coverage or Remote Monitoring
- Best for Schools, Government Buildings, Construction Sites, and many more



### Privacy Masking

- Allows Blocking of Specific Areas of the Camera View
- Blur or Mask up to 24 Regions from Camera View
- Used to Keep Camera from Capturing Footage of Private Offices and Rest Rooms
- Ensures Privacy



### Revolutionary Night Performance

- Infrared Range of up to 200 meters
- Superior Image Quality even at Night
- Can Cover Large Distance
- Suitable for Schools, Businesses, and Government Buildings



### Intelligent Video Analytics

- Advanced Video Analytics Features for Proactive Video Surveillance
- Features Like Motion Detection, Tripwire, and Audio Exception
- Tamper Detection and Intrusion Detection for Better Surveillance
- Real time Updates using SMS, Email with Snapshot, Upload Image/Clip, Pre/Post Recording and Schedule Snapshot.



### Up to 500 Presets

- Preset is Pre-configured Positions Programmed in the Camera
- Can Store up to 500 Camera Positions and Angles
- Monitor Different Areas without Having to Manually Adjust Camera Each Time
- Ease of Use



### Auto Scan

- Automatically Scan an Area and Follow a Pre Defined Pattern of Movement
- Can Adjust up to 8 Auto Scans
- Useful to Monitor a Wide Range of Locations in a Continuous Loop
- Ease of Monitoring

## NETWORK PTZ CONTROLLER

Matrix IP-based PTZ Controller is a user-friendly camera monitoring solution tailored to complement Matrix PTZ Cameras and Cameras with Motorized Varifocal Lens (MVL). It allows for effortless camera control without accessing the camera web page, NVR, or VMS.

### NETWORK PTZ CONTROLLER DIFFERENTIATORS



#### 4D JOYSTICK

- Precise Positioning for Pan, Tilt, Zoom, and Focus



#### Built-in PoE Module

- Hassle-free Camera Connection, Simplifying Setup



#### Smart Keyboard

- Advanced Functionalities: Preset, Tour, Patrol, Scan



#### Supports ONVIF Protocol

- Connect Up to 999 Matrix/Third-party Cameras



#### Intelligent LED Display

- Convenient User-Interface



#### Interactive Web Page

- Easily Manage and Add/Remove Devices



## MATRIX IP CAMERA RANGE - 8MP, 5MP, 2MP, TURRET, PTZ, AND RUGGED SERIES



Pan-Tilt-Zoom:  
**33x Optical Zoom**  
**2MP**



Pan-Tilt-Zoom:  
**25x Optical Zoom**  
**2MP**



CIBR:  
**Project Series**  
**Bullet 8/5/2 MP**



MIBR:  
**Professional Series**  
**Bullet 8/5/2 MP**



CIDR:  
**Project Series**  
**Dome 8/5/2 MP**



MIDR:  
**Professional Series**  
**Dome 8/5/2 MP**



MITR:  
**Turret Series**  
**5/2 MP**



MITC:  
**Turret Series All Color**  
**5/2 MP**



RIDR  
**Ruggedized Series**  
**5/2 MP**



Upcoming  
**PTZ Variants 5/2 MP**  
**Up to 54x Zoom**

## IP CAMERA SELECTION GUIDE

PROJECT SERIES BULLET/DOME PREMIUM AND STANDARD								
BULLET	DOME	Resolution	Lens	Focal Length	2-Way Audio	Digital I/O	IR Range	Streams
SATATYA CIBR80FL28CWS P2	SATATYA CIDR80FL28CWS P2	8MP	Fixed	2.8mm	-	-	Up to 50m	4
SATATYA CIBR80FL36CWS P2	SATATYA CIDR80FL36CWS P2	8MP	Fixed	3.6mm	-	-	Up to 50m	4
SATATYA CIBR80FL60CWS P2	SATATYA CIDR80FL60CWS P2	8MP	Fixed	6mm	-	-	Up to 50m	4
SATATYA CIBR80FL28CWP P2	SATATYA CIDR80FL28CWP P2	8MP	Fixed	2.8mm	Yes	Yes	Up to 50m	4
SATATYA CIBR80FL36CWP P2	SATATYA CIDR80FL36CWP P2	8MP	Fixed	3.6mm	Yes	Yes	Up to 50m	4
SATATYA CIBR80FL60CWP P2	SATATYA CIDR80FL60CWP P2	8MP	Fixed	6mm	Yes	Yes	Up to 50m	4
SATATYA CIBR80ML12CWP P2	SATATYA CIDR80ML12CWP P2	8MP	MVF	4.3mm - 10mm	Yes	Yes	Up to 50m	4
SATATYA CIBR50FL28CWS P2	SATATYA CIDR50FL28CWS P2	5MP	Fixed	2.8mm	-	-	Up to 50m	4
SATATYA CIBR50FL40CWS P2	SATATYA CIDR50FL40CWS P2	5MP	Fixed	3.6mm	-	-	Up to 50m	4
SATATYA CIBR50FL60CWS P2	SATATYA CIDR50FL60CWS P2	5MP	Fixed	6mm	-	-	Up to 50m	4
SATATYA CIBR50FL28CWP P2	SATATYA CIDR50FL28CWP P2	5MP	Fixed	2.8mm	Yes	Yes	Up to 50m	4
SATATYA CIBR50FL40CWP P2	SATATYA CIDR50FL40CWP P2	5MP	Fixed	3.6mm	Yes	Yes	Up to 50m	4
SATATYA CIBR50FL60CWP P2	SATATYA CIDR50FL60CWP P2	5MP	Fixed	6mm	Yes	Yes	Up to 50m	4
SATATYA CIBR50VL12CWS P2	SATATYA CIDR50VL12CWS P2	5MP	VF	2.8mm - 12mm	-	-	Up to 50m	4
SATATYA CIBR50MVL12CWP P2	SATATYA CIDR50MVL12CWP P2	5MP	MVF	2.8mm - 12mm	Yes	Yes	Up to 50m	4
SATATYA CIBR20FL28CWS P2	SATATYA CIDR20FL28CWS P2	2MP	Fixed	2.8mm	-	-	Up to 50m	4
SATATYA CIBR20FL36CWS P2	SATATYA CIDR20FL36CWS P2	2MP	Fixed	3.6mm	-	-	Up to 50m	4
SATATYA CIBR20FL60CWS P2	SATATYA CIDR20FL60CWS P2	2MP	Fixed	6.0mm	-	-	Up to 50m	4
SATATYA CIBR20FL28CWP P2	SATATYA CIDR20FL28CWP P2	2MP	Fixed	2.8mm	Yes	Yes	Up to 50m	4
SATATYA CIBR20FL36CWP P2	SATATYA CIDR20FL36CWP P2	2MP	Fixed	3.6mm	Yes	Yes	Up to 50m	4
SATATYA CIBR20FL60CWP P2	SATATYA CIDR20FL60CWP P2	2MP	Fixed	6.0mm	Yes	Yes	Up to 50m	4
SATATYA CIBR20VL12CWS P2	SATATYA CIDR20VL12CWS P2	2MP	VF	2.8mm - 12mm	-	-	Up to 50m	4
SATATYA CIBR20MVL12CWP P2	SATATYA CIDR20MVL12CWP P2	2MP	MVF	2.8mm - 12mm	Yes	Yes	Up to 50m	4

PROFESSIONAL SERIES BULLET/DOME PREMIUM AND STANDARD								
BULLET	DOME	Resolution	Lens	Focal Length	2-Way Audio	Digital I/O	IR Range	Streams
SATATYA MIBR80FL28CWS P2	SATATYA MIDR80FL28CWS P2	8MP	Fixed	2.8mm	-	-	Up to 30m	4
SATATYA MIBR80FL36CWS P2	SATATYA MIDR80FL36CWS P2	8MP	Fixed	3.6mm	-	-	Up to 30m	4
SATATYA MIBR80FL60CWS P2	SATATYA MIDR80FL60CWS P2	8MP	Fixed	6mm	-	-	Up to 30m	4
SATATYA MIBR80FL28CWP P2	SATATYA MIDR80FL28CWP P2	8MP	Fixed	2.8mm	Yes	Yes	Up to 30m	4
SATATYA MIBR80FL36CWP P2	SATATYA MIDR80FL36CWP P2	8MP	Fixed	3.6mm	Yes	Yes	Up to 30m	4
SATATYA MIBR80FL60CWP P2	SATATYA MIDR80FL60CWP P2	8MP	Fixed	6mm	Yes	Yes	Up to 30m	4
SATATYA MIBR50FL28CWS P2	SATATYA MIDR50FL28CWS P2	5MP	Fixed	2.8mm	-	-	Up to 30m	4
SATATYA MIBR50FL40CWS P2	SATATYA MIDR50FL40CWS P2	5MP	Fixed	4mm	-	-	Up to 30m	4
SATATYA MIBR50FL60CWS P2	SATATYA MIDR50FL60CWS P2	5MP	Fixed	6mm	-	-	Up to 30m	4
SATATYA MIBR50FL28CWP P2	SATATYA MIDR50FL28CWP P2	5MP	Fixed	2.8mm	Yes	Yes	Up to 30m	4
SATATYA MIBR50FL40CWP P2	SATATYA MIDR50FL40CWP P2	5MP	Fixed	4mm	Yes	Yes	Up to 30m	4
SATATYA MIBR50FL60CWP P2	SATATYA MIDR50FL60CWP P2	5MP	Fixed	6mm	Yes	Yes	Up to 30m	4
SATATYA MIBR20FL28CWS P2	SATATYA MIDR20FL28CWS P2	2MP	Fixed	2.8mm	-	-	Up to 30m	4
SATATYA MIBR20FL36CWS P2	SATATYA MIDR20FL36CWS P2	2MP	Fixed	3.6mm	-	-	Up to 30m	4
SATATYA MIBR20FL60CWS P2	SATATYA MIDR20FL60CWS P2	2MP	Fixed	6.0mm	-	-	Up to 30m	4
SATATYA MIBR20FL28CWP P2	SATATYA MIDR20FL28CWP P2	2MP	Fixed	2.8mm	Yes	Yes	Up to 30m	4
SATATYA MIBR20FL36CWP P2	SATATYA MIDR20FL36CWP P2	2MP	Fixed	3.6mm	Yes	Yes	Up to 30m	4
SATATYA MIBR20FL60CWP P2	SATATYA MIDR20FL60CWP P2	2MP	Fixed	6.0mm	Yes	Yes	Up to 30m	4

## TURRET SERIES STANDARD VARIANT

TURRET SERIES	Resolution	Lens	Focal Length	2-Way Audio	Digital I/O	IR Range	Streams
SATATYA MITR50FL28CWS P2	5MP	Fixed	2.8mm	-	-	Up to 30m	4
SATATYA MITR50FL40CWS P2	5MP	Fixed	4mm	-	-	Up to 30m	4
SATATYA MITR50FL60CWS P2	5MP	Fixed	6mm	-	-	Up to 30m	4
SATATYA MITR20FL28CWS P2	2MP	Fixed	2.8mm	-	-	Up to 30m	4
SATATYA MITR20FL36CWS P2	2MP	Fixed	3.6mm	-	-	Up to 30m	4
SATATYA MITR20FL60CWS P2	2MP	Fixed	6mm	-	-	Up to 30m	4

## TURRET SERIES ALL COLOR CAMERAS

TURRET SERIES	Resolution	Lens	Focal Length	2-Way Audio	Digital I/O	IR Range	Streams
SATATYA MITC50FL28CWS P2	5MP	Fixed	2.8mm	-	-	Up to 30m	4
SATATYA MITC50FL40CWS P2	5MP	Fixed	4mm	-	-	Up to 30m	4
SATATYA MITC50FL60CWS P2	5MP	Fixed	6mm	-	-	Up to 30m	4
SATATYA MITC20FL28CWS P2	2MP	Fixed	2.8mm	-	-	Up to 30m	4
SATATYA MITC20FL36CWS P2	2MP	Fixed	3.6mm	-	-	Up to 30m	4
SATATYA MITC20FL60CWS P2	2MP	Fixed	6mm	-	-	Up to 30m	4

## RUGGEDIZED SERIES PREMIUM VARIANT

RUGGEDIZED SERIES	Resolution	Lens	Focal Length	2-Way Audio	Digital I/O	IR Range	Streams
SATATYA RIDR50FL28CWP P2	5MP	Fixed	2.8mm	Yes	Yes	Up to 30m	4
SATATYA RIDR50FL40CWP P2	5MP	Fixed	4mm	Yes	Yes	Up to 30m	4
SATATYA RIDR50FL60CWP P2	5MP	Fixed	6mm	Yes	Yes	Up to 30m	4
SATATYA RIDR20FL28CWP P2	2MP	Fixed	2.8mm	Yes	Yes	Up to 30m	4
SATATYA RIDR20FL36CWP P2	2MP	Fixed	3.6mm	Yes	Yes	Up to 30m	4
SATATYA RIDR20FL60CWP P2	2MP	Fixed	6mm	Yes	Yes	Up to 30m	4

## PAN-TILT-ZOOM SERIES

PTZ SERIES	Resolution	Lens	Focal Length	2-Way Audio	Digital I/O	IR Range	Streams
SATATYA PZCR50ML42CWP	5MP	MVF	7mm-300mm	✓	✓	300m	3
SATATYA PZCR20ML33CWP	2MP	MVF	4.6mm-152mm	✓	✓	200m	3
SATATYA PZCR20ML25CWP	2MP	MVF	4.8mm-120mm	✓	✓	150m	3

## UPCOMING PTZ VARIANTS

SATATYA PTZ2030P	2MP	MVF	4.8mm - 120mm	✓	✓	200m	4
SATATYA PTZ2040P	2MP	MVF	4.4 mm - 169.4mm	✓	✓	250m	4
SATATYA PTZ2050P	2MP	MVF	6mm - 252mm	✓	✓	400m	4
SATATYA PTZ5030P	5MP	MVF	4.6mm -167mm	✓	✓	300m	4
SATATYA PTZ5040P	5MP	MVF	7mm- 300mm	✓	✓	350m	4
SATATYA PTZ5050P	5MP	MVF	6.5 mm to 340 mm	✓	✓	500m	4

Note: **P**: Premium; **S**: Standard; **MVL**: Motorized Varifocal; **VL**: Varifocal





## SOME ESTEEMED CUSTOMERS

### BFSI

- Commercial Bank of Congo
- National Health Insurance Fund - Tanzania
- Vajjapur Merchant Bank

### CONSTRUCTION

- L&T Construction - Commnet
- Prestige Jindal City
- Panchsil Group
- Infocare Tower
- Bhartiya City
- RRVP Bangalore
- Branded Residences Project

### EDUCATION

- IDP Education India Pvt. Ltd.
- TATA Institute of Fundamental Research (TIFR)
- AM Jain College
- Global Academy
- CHH. Shahu College of Engineering
- Don Bosco School
- Ramadevi Public School
- Chikkaballapur Medical College
- Bhavan's College

### HEALTHCARE & HOSPITALITY

- The Gujarat Cancer and Research Institute
- Krisnaa Diagnostic
- TATA Memorial Centre Advanced Centre for Treatment, Research and Education in Cancer
- Jaipuria Hospital
- Thika Greens Golf Resort - Kenya
- Hotel EPIC - Rawanda
- RG Stone Urology and Laparoscopy Hospital
- Maharaja Agrasen Palace

### GOVERNMENT

- The Gujarat Cancer and Research Institute
- Western Central Railways
- Airport Authority of India
- Indian Space Research Organization
- Ministry of Ayush
- Maharashtra Industrial Development Corporation - Pune
- Industrial Development Corporation - Zambia
- Genova Piazza Principe Railway Station - Italy

### IT / ITES, RETAIL

- Teleperformance Albania
- Mash Virtual Pvt. Ltd.
- Bell IT and SS Pvt. Ltd.
- Lenskart Solutions Pvt. Ltd.
- AL Adrek
- DGI Care Info
- L&T Metro
- BioSense Institute - Serbia

### MANUFACTURING

- Samsonite South Asia Pvt. Ltd.
- ITC Ahmedabad
- ONGC Green Building
- Mercedes-Benz India Pvt. Ltd.
- Kirloskar Ebara Pumps Ltd.
- Kenya Coach Industries
- Teko Mining
- Horra Trading
- Gamma Materials

## ABOUT MATRIX

Established in 1991, Matrix is a leader in Security and Telecom solutions for modern businesses and enterprises. As a technology-driven, and customer-focused organization, the company is committed to keeping 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 Systems, Network Video Recorders 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 international standards.

Having global footprints in Asia, Europe, North America, South America, and Africa through an extensive network of more than 4000+ channel partners, Matrix ensures that the products serve the needs of its customers faster and longer.

Matrix has ISO 27001: 2013, 20000-1 2018, 14001- 2015, and 9001: 2015 certifications for quality management standards. Matrix has also been awarded ZED Quality Certification, and DSIR Certification for indigenous R&D and Manufacturing. Matrix has gained the trust and admiration of customers representing the entire spectrum of industries.

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