IP VIDEO SURVEILLANCE SOLUTIONS

MATRIX SATATYA
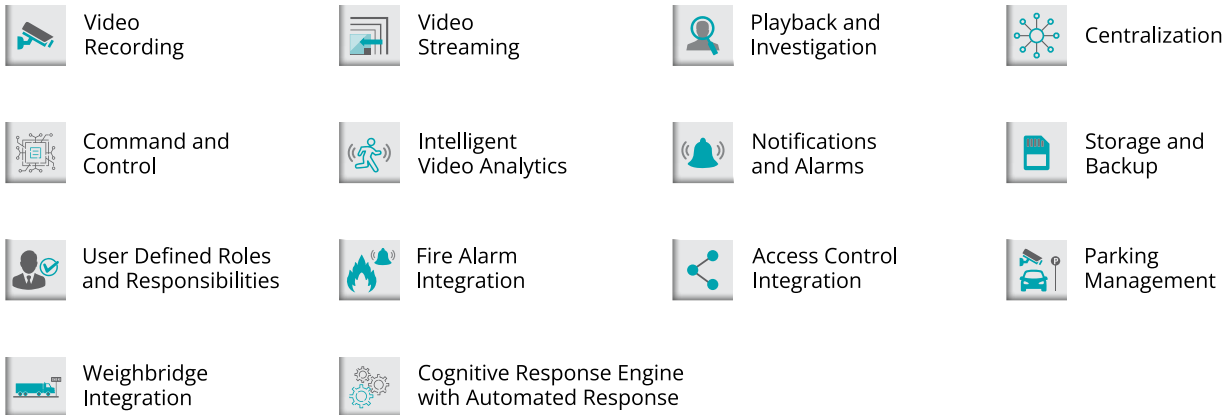### Video Surveillance Solutions for Enterprises

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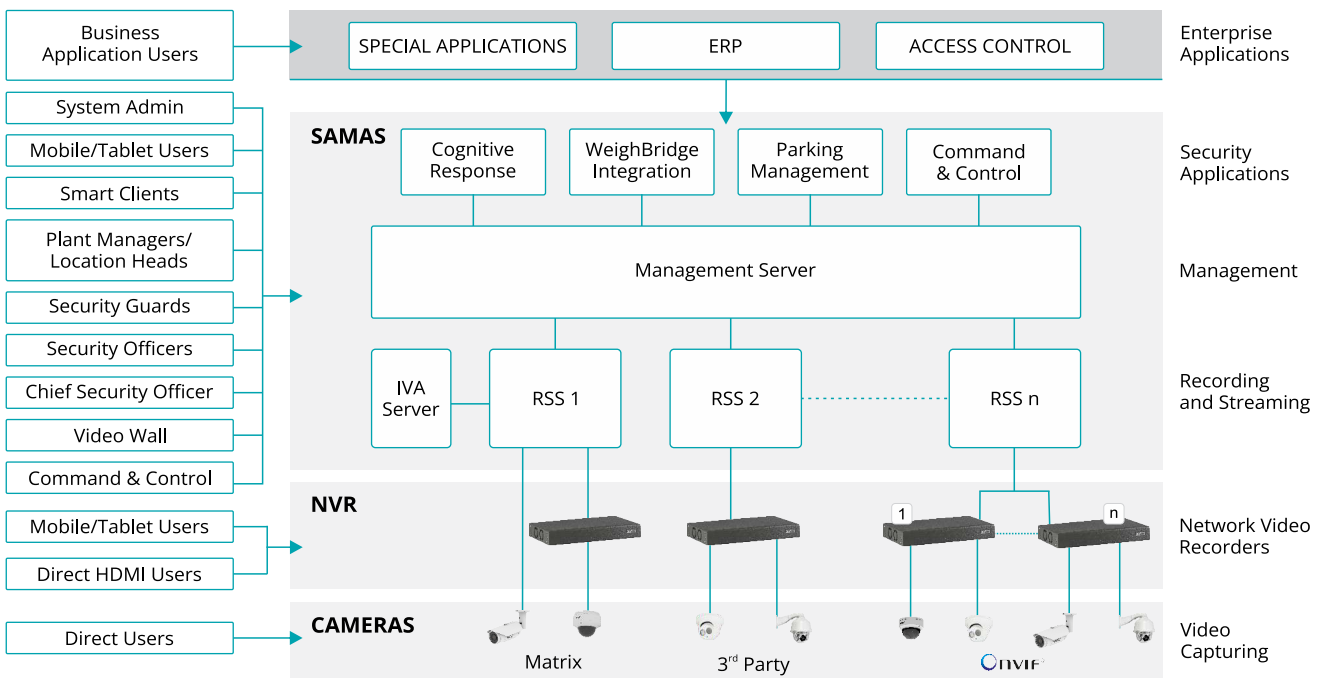
Matrix SATATYA family includes enterprise-grade Video Management Software (VMS), Network Video Recorders (NVRs), Enterprise Network Video Recorders (ENVRs), and IP Cameras. Designed with an emphasis on centralized visibility and preventive security, Matrix SATATYA truly addresses the security, safety,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

Centralized Video Surveillance
- Monitoring Multiple Locations Centrally
- Better Situational Awareness and Response Time
- Better Decision Making and Reduced Security Lapses

Complete Product Portfolio
- IP Cameras, NVRs, ENVRs, VMS
- All Surveillance Requirements from One Source
- Seamless Integration and Symbiotic Interworking

Scalable
- Expandable up to 65,535 Cameras
- 10,000 Locations
- 1000 Concurrent Users

Organization-wide Visibility and Control
- View Events Instantly from Multiple Locations
- Better Response Time
- Proactive Surveillance

User-based Roles and Responsibilities
- It can be Customized to Match the Hierarchy of the Organization
- Helps Define Rights Based on User Profile
- Better Control over Cameras View and Playback Rights

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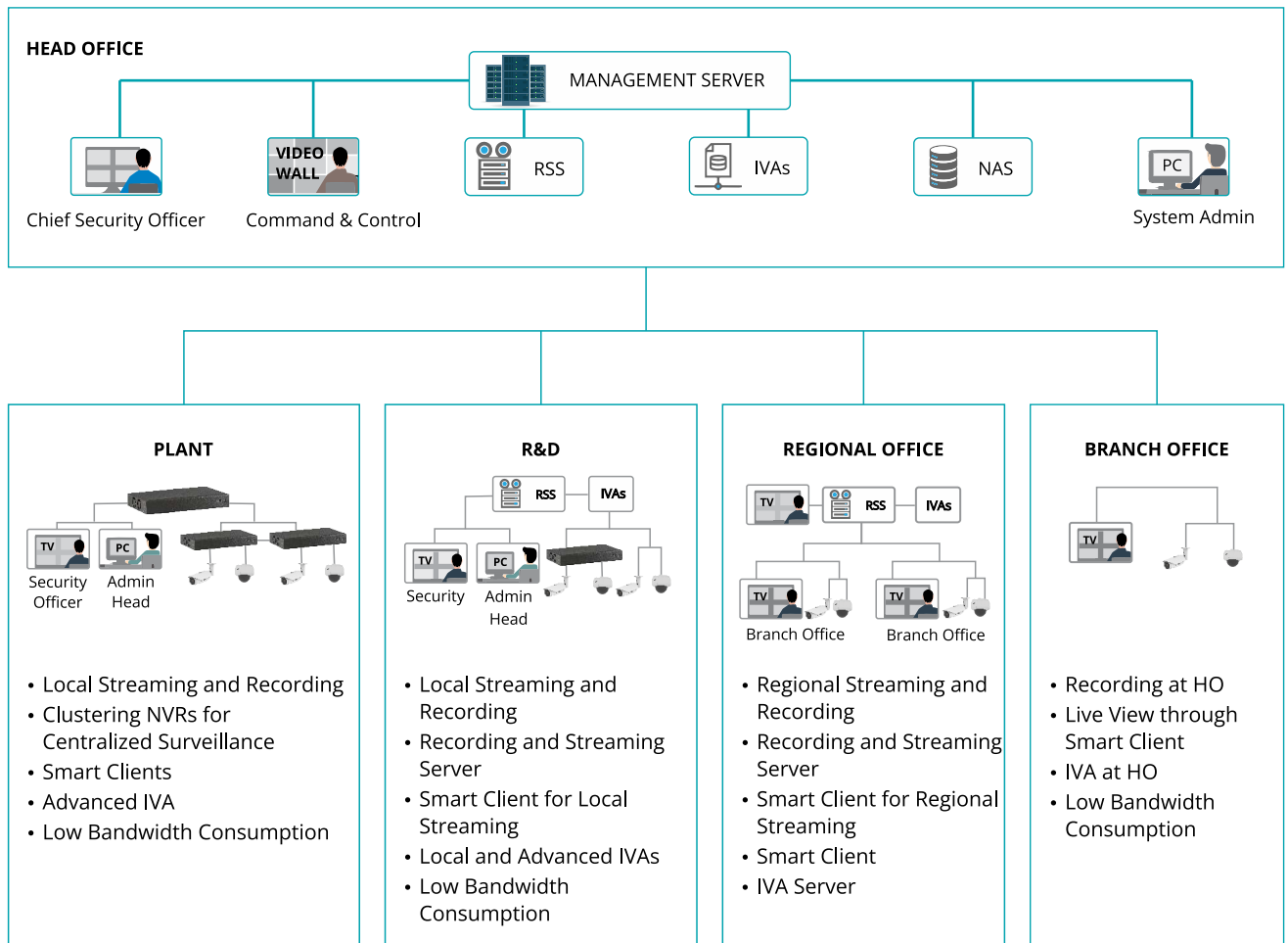
Interoperability
- Open Interfaces for Cameras, NVRs, ENVRs, VMS, and Other Surveillance Applications
- Open Protocols such as ONVIF, TCP-based APIs, and Database Integration

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

HEAD OFFICE

MANAGEMENT SERVER

Chief Security Officer — Command & Control — RSS — IVAs — NAS — System Admin

PLANT
- Local Streaming and Recording
- Clustering NVRs for Centralized Surveillance
- Smart Clients
- Advanced IVA
- Low Bandwidth Consumption

Security Officer — Admin Head

R&D
- Local Streaming and Recording
- Recording and Streaming Server
- Smart Client for Local Streaming
- Local and Advanced IVAs
- Low Bandwidth Consumption

Security — Admin Head — RSS — IVAs

REGIONAL OFFICE
- Regional Streaming and Recording
- Recording and Streaming Server
- Smart Client for Regional Streaming
- Smart Client
- IVA Server

RSS — IVAs — Branch Office — Branch Office

BRANCH OFFICE
- Recording at HO
- Live View through Smart Client
- IVA at HO
- Low Bandwidth Consumption

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.
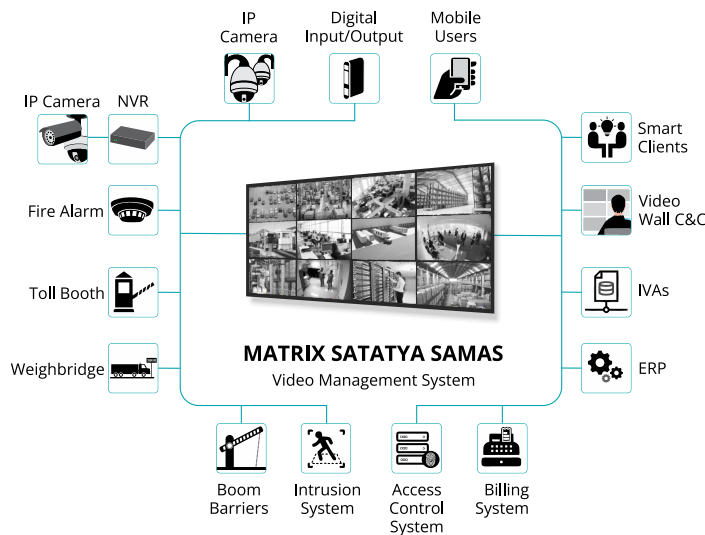
SAMAS SERVER AND CLIENT MODULES

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

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

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

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

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

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

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

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

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

Two-way Audio
- Use Smart-client Audio I/O Ports to Connect Mic and Speaker
- Live Listening and Making 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.
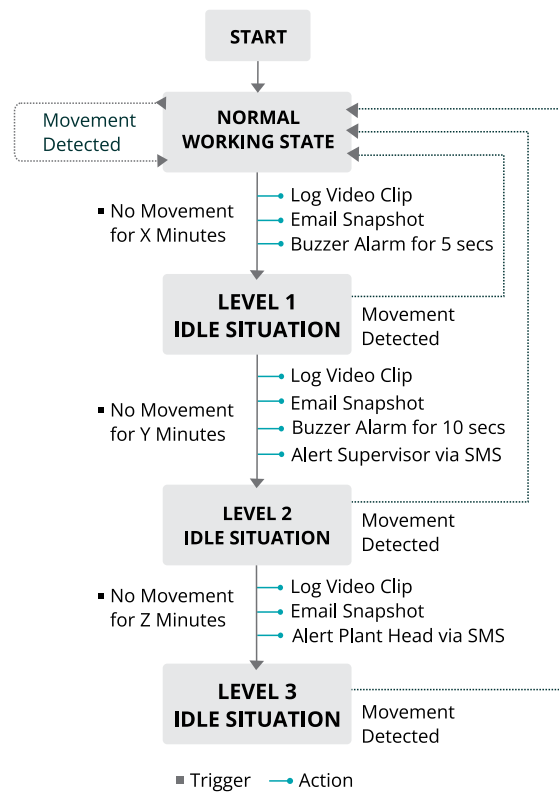
Features

- 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

START

NORMAL WORKING STATE
- Movement Detected

No Movement for X Minutes
- Log Video Clip
- Email Snapshot
- Buzzer Alarm for 5 secs

LEVEL 1 IDLE SITUATION
- Movement Detected

No Movement for Y Minutes
- Log Video Clip
- Email Snapshot
- Buzzer Alarm for 10 secs
- Alert Supervisor via SMS

LEVEL 2 IDLE SITUATION
- Movement Detected

No Movement for Z Minutes
- Log Video Clip
- Email Snapshot
- Alert Plant Head via SMS

LEVEL 3 IDLE SITUATION
- Movement Detected

■ Trigger ― Action

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.
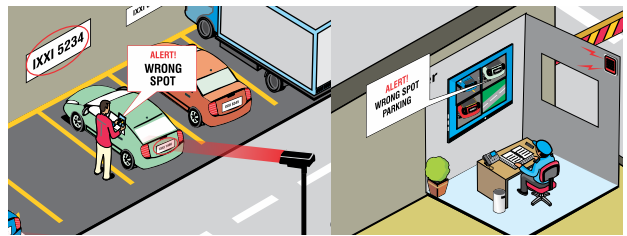
Parking Management Features

- 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
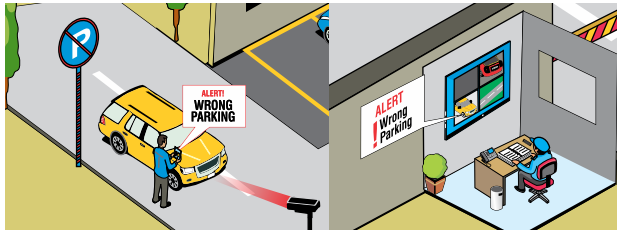- Premise Availability
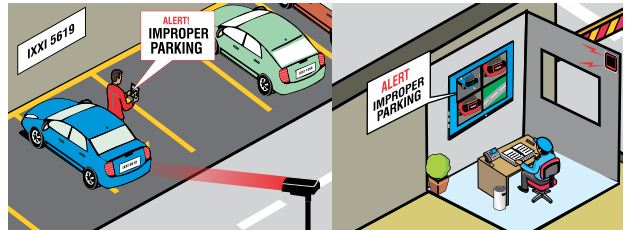- Parking after Closing Hours

Entry or Exit of Vehicles
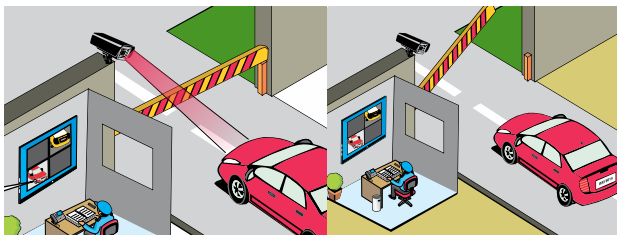
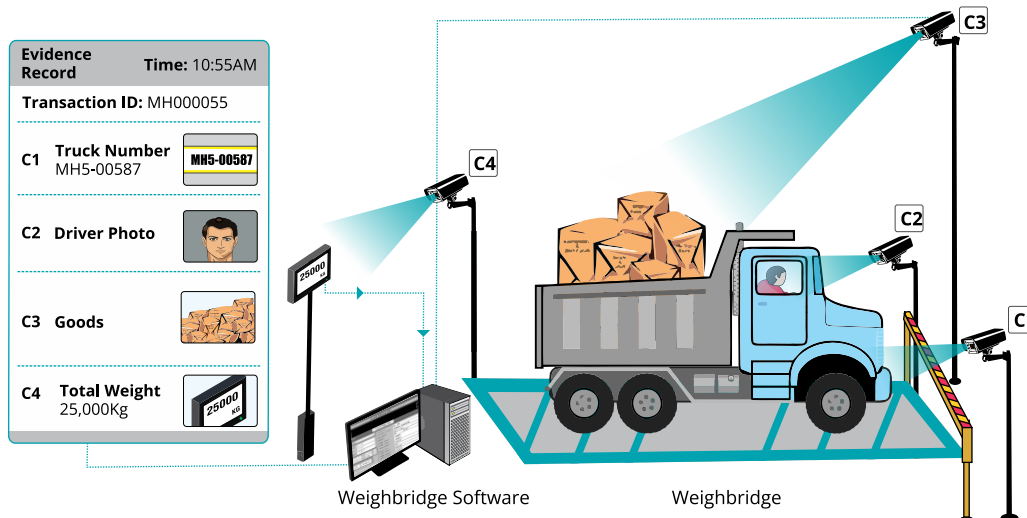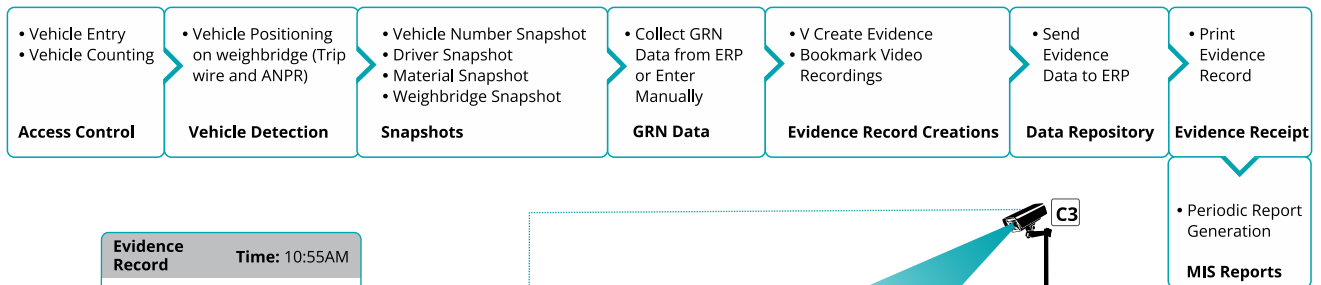**Unauthorized Parking**

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

| • Vehicle Entry
• Vehicle Counting

Access Control | • Vehicle Positioning on weighbridge (Trip wire and ANPR)

Vehicle Detection | • Vehicle Number Snapshot
• Driver Snapshot
• Material Snapshot
• Weighbridge Snapshot

Snapshots | • Collect GRN Data from ERP or Enter Manually

GRN Data | • V Create Evidence
• Bookmark Video Recordings

Evidence Record Creations | • Send Evidence Data to ERP

Data Repository | • Print Evidence Record

Evidence Receipt |

| • Periodic Report Generation

MIS Reports |

Evidence Record   **Time:** 10:55AM

Transaction ID: MH000055

C1 **Truck Number** MH5-00587

C2 **Driver Photo**

C3 **Goods**

C4 **Total Weight** 25,000Kg

C3

C4

C2

C1

Weighbridge Software   Weighbridge

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 NETWORK VIDEO RECORDERS

SATATYA PARAM is a range of Network Video Recorders (NVR) and Enterprise Network Video Recorders (ENVR) designed for streaming, recording, and storing video footage from IP cameras. Matrix NVRs compress footage and store it for future reference.

The Extreme series NVRs can support up to 64 channels and have a storage capacity of up to 80TB (10TB per SATA Port). On the other hand, ENVRs can support up to 256 channels, and have a recording capacity of up to 144TB (18TB per SATA port).

SATATYA - 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 32/64/128/256 channel.

Matrix/Third Party/ONVIF PTZ Camera
Matrix/Third Party/ONVIF IP Bullet Camera
Matrix/Third Party/ONVIF IP Dome Camera

Public/Private Network - LAN/WAN/MPLS

VMS SATATYA SAMAS Ported In Server

VGA Interface
DP Interface 1
DP Interface 2

Admin Client
Recording & Streaming Service
Management Service
License Service
Notification Service

Smart Client Operations

COTS Hardware Server with Windows OS & Local Storage HDD

ENTERPRISE SERIES NVR
32/64/128/256 CHANNELs, UPTO 8 SATA PORTS

Public/Private Network - LAN/WAN/MPLS

Mobile Client 'Vision' Smart Phone/Tablet
Smart Client Workstation
Videowall - Multi Display Client Server/Workstation with GPU Card
Third Party Monitoring Client/Business Applications
Matrix COSEC ACTA Server
Matrix SAMAS IVA Server
Relay Out Sensors
COSEC PANEL200P
COSEC ARC IO800
Relay In Sensors

ENVR DIFFERENTIATORS

Turnkey VMS Solution
- Network Video Recorders with Preloaded Video Management System (VMS)
- Single System for Video Surveillance Management, Recording & Storage
- Enterprise-Class Server-based Video Surveillance Solution
- No Need to Invest Separately in a Server and VMS
- Comprehensive Surveillance Solution for Mid Size Enterprises

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

256 Channel and 144TB Storage
- Up to 256 Channel Support in a Single Platform
- High Storage Capacity of 144TB (18TB per SATA Port)
- Ample Storage to Record and Store HD and UHD streams
- Hybrid RAID 0/1/5/10 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 at all Times

Redundant Storage
- Fault Tolerance Recording at u-SD Card
- Hot and Cold Swap Redundant and Failover Recording Support
- 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 even in case of Power Failure
- Redundant Power Supply Improves Reliability of the System

RAID Support
- 0/1/5/10 RAID Support
- Enterprise-grade Hardware Controller RAID Support

Higher Throughput
- Throughput Capacity of 1Gbps (512 Mbps Uplink and 512 Mbps Downlink)
- Allows Streaming of Video Footage

Time Lapse and Day Highlight Recording
- Convenient Playback of Snapshots
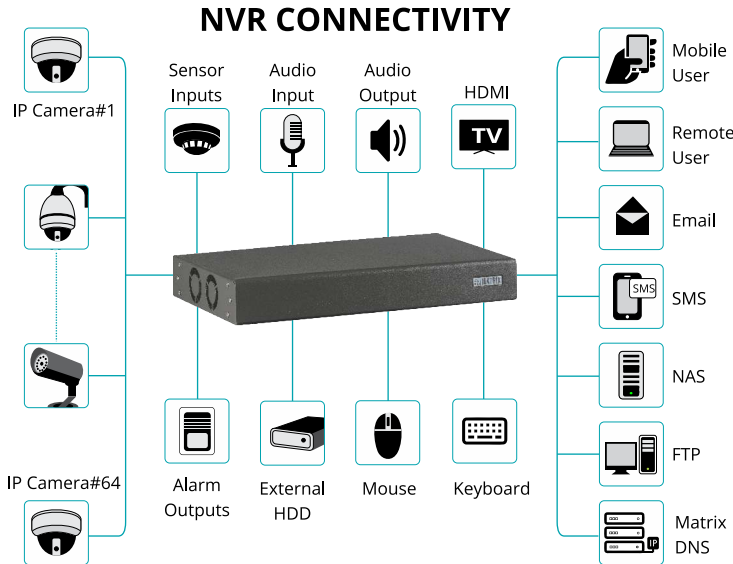- Allows Checking Progress of Years in Minutes

ENVR Selection Guide

Enterprise 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		
NVR3208XCTS	32	-	1	1	Connect via. COSEC PANEL200P + ARC I/O 800 Controller		8 (18TB each)	RAID 0, 1,5,10	5 (4 - LED Indication, 1 - Server Management)	5		1Gbps
NVR6408XCTS	64	-	1	1			8 (18TB each)	RAID 0, 1,5,10		5		1Gbps
NVR12808XCTS	128	-	1	1			8 (18TB each)	RAID 0, 1,5,10		5		1Gbps
NVR25608XCTS	256	-	1	1			8 (18TB each)	RAID 0, 1,5,10		5		1Gbps

SATATYA - EXTREME SERIES NETWORK VIDEO RECORDERS (NVRX)

SATATYA is a Network Video Recorder (NVR) range that 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 144TB (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

IP Camera#1 · Sensor Inputs · Audio Input · Audio Output · HDMI · Mobile User · Remote User · Email · SMS · NAS · FTP · Matrix DNS · IP Camera#64 · Alarm Outputs · External HDD · Mouse · Keyboard

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

Office 1
Office 2
Office 20
Server not Required
Matrix Solution
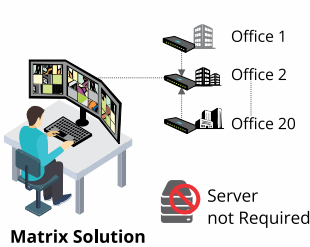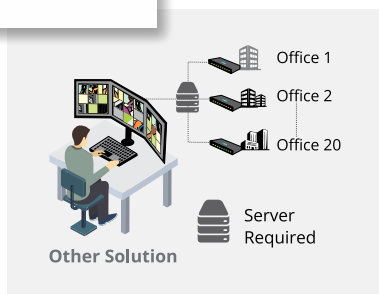
Office 1
Office 2
Office 20
Server Required
Other Solution

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

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

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

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

Adaptive Recording

Ultra HD Recording

Camera Initiation

Integration

Instant Notifications

TCP Notifications

Interoperability

H.265 Compression

360 Mbps Throughput

Camera Wise Recording

Storage

Plug and Play

Device Status

NVRXS Series
4/8/16 CHANNELs, 1 SATA PORT

IP Camera#1

HDMI

TV

IP Camera#16

External HDD

Mouse

Keyboard

Mobile User

Remote User

Email

SMS

NAS

FTP

Matrix DNS
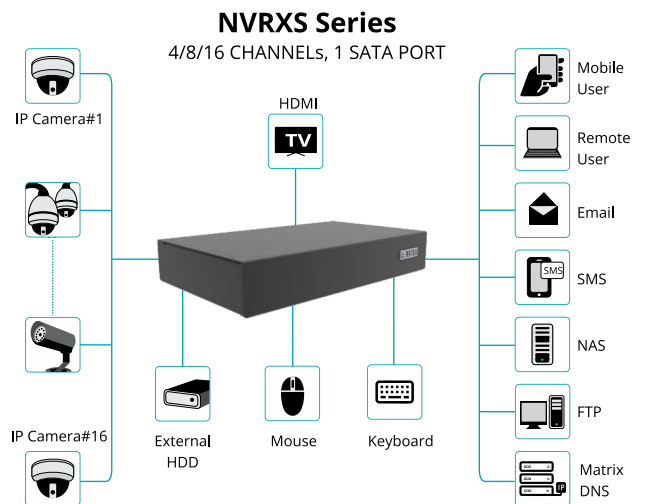
NVR/NVR XS Selection Guide

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 Serches and Fetches IP Addresses
- Matrix NVRs Assigns Predefined IP Addresses and Configure the Cameras
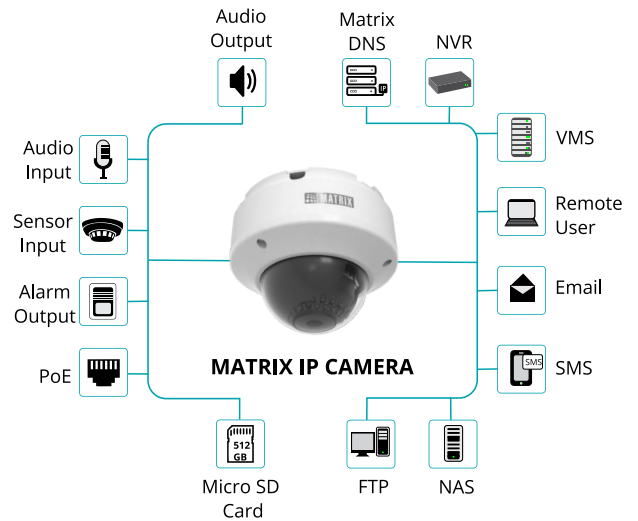
Matrix DNS
- NVRs and Cameras Register their Customized Domain Names on Matrix DNS
- The Clients can Access it for Viewing and Configuration

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

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
- 5MP Cameras are Available with 42x 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/42x 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

Revolutionary Night Performance
- Infrared Range of up to 300 meters
- Superior Image Quality even at Night
- Can Cover Large Distance
- Suitable for Schools, Businesses, and Government Buildings

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

Privacy Masking
- Allows Blocking of Specific Areas of the Camera View
- Blurr or Mask up to 28 Regions from Camera View
- Used to Keep Camera from Capturing Footage of Private Offices and Rest Rooms
- Ensures Privacy

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.

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

Pan-Tilt-Zoom:
42x Optical Zoom
5MP

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

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	SATATYA CIDR80FL28CWS	8MP	Fixed	2.8mm	-	-	Up to 50m	4
SATATYA CIBR80FL36CWS	SATATYA CIDR80FL36CWS	8MP	Fixed	3.6mm	-	-	Up to 50m	4
SATATYA CIBR80FL60CWS	SATATYA CIDR80FL60CWS	8MP	Fixed	6mm	-	-	Up to 50m	4
SATATYA CIBR80FL28CWP	SATATYA CIDR80FL28CWP	8MP	Fixed	2.8mm	Yes	Yes	Up to 50m	4
SATATYA CIBR80FL36CWP	SATATYA CIDR80FL36CWP	8MP	Fixed	3.6mm	Yes	Yes	Up to 50m	4
SATATYA CIBR80FL60CWP	SATATYA CIDR80FL60CWP	8MP	Fixed	6mm	Yes	Yes	Up to 50m	4
SATATYA CIBR80ML12CWP	SATATYA CIDR80ML12CWP	8MP	MVF	4.3mm - 10mm	Yes	Yes	Up to 50m	4
SATATYA CIBR50FL28CWS	SATATYA CIDR50FL28CWS	5MP	Fixed	2.8mm	-	-	Up to 50m	4
SATATYA CIBR50FL40CWS	SATATYA CIDR50FL40CWS	5MP	Fixed	3.6mm	-	-	Up to 50m	4
SATATYA CIBR50FL60CWS	SATATYA CIDR50FL60CWS	5MP	Fixed	6mm	-	-	Up to 50m	4
SATATYA CIBR50FL28CWP	SATATYA CIDR50FL28CWP	5MP	Fixed	2.8mm	Yes	Yes	Up to 50m	4
SATATYA CIBR50FL40CWP	SATATYA CIDR50FL40CWP	5MP	Fixed	3.6mm	Yes	Yes	Up to 50m	4
SATATYA CIBR50FL60CWP	SATATYA CIDR50FL60CWP	5MP	Fixed	6mm	Yes	Yes	Up to 50m	4
SATATYA CIBR50VL12CWS	SATATYA CIDR50VL12CWS	5MP	VF	2.8mm - 12mm	-	-	Up to 50m	4
SATATYA CIBR50MVL12CWP	SATATYA CIDR50MVL12CWP	5MP	MVF	2.8mm - 12mm	Yes	Yes	Up to 50m	4
SATATYA CIBR20FL28CWS	SATATYA CIDR20FL28CWS	2MP	Fixed	2.8mm	-	-	Up to 50m	4
SATATYA CIBR20FL36CWS	SATATYA CIDR20FL36CWS	2MP	Fixed	3.6mm	-	-	Up to 50m	4
SATATYA CIBR20FL60CWS	SATATYA CIDR20FL60CWS	2MP	Fixed	6.0mm	-	-	Up to 50m	4
SATATYA CIBR20FL28CWP	SATATYA CIDR20FL28CWP	2MP	Fixed	2.8mm	Yes	Yes	Up to 50m	4
SATATYA CIBR20FL36CWP	SATATYA CIDR20FL36CWP	2MP	Fixed	3.6mm	Yes	Yes	Up to 50m	4
SATATYA CIBR20FL60CWP	SATATYA CIDR20FL60CWP	2MP	Fixed	6.0mm	Yes	Yes	Up to 50m	4
SATATYA CIBR20VL12CWS	SATATYA CIDR20VL12CWS	2MP	VF	2.8mm - 12mm	-	-	Up to 50m	4
SATATYA CIBR20MVL12CWP	SATATYA CIDR20MVL12CWP	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	SATATYA MIDR80FL28CWS	8MP	Fixed	2.8mm	-	-	Up to 30m	4
SATATYA MIBR80FL36CWS	SATATYA MIDR80FL36CWS	8MP	Fixed	3.6mm	-	-	Up to 30m	4
SATATYA MIBR80FL60CWS	SATATYA MIDR80FL60CWS	8MP	Fixed	6mm	-	-	Up to 30m	4
SATATYA MIBR80FL28CWP	SATATYA MIDR80FL28CWP	8MP	Fixed	2.8mm	Yes	Yes	Up to 30m	4
SATATYA MIBR80FL36CWP	SATATYA MIDR80FL36CWP	8MP	Fixed	3.6mm	Yes	Yes	Up to 30m	4
SATATYA MIBR80FL60CWP	SATATYA MIDR80FL60CWP	8MP	Fixed	6mm	Yes	Yes	Up to 30m	4
SATATYA MIBR50FL28CWS	SATATYA MIDR50FL28CWS	5MP	Fixed	2.8mm	-	-	Up to 30m	4
SATATYA MIBR50FL40CWS	SATATYA MIDR50FL40CWS	5MP	Fixed	4mm	-	-	Up to 30m	4
SATATYA MIBR50FL60CWS	SATATYA MIDR50FL60CWS	5MP	Fixed	6mm	-	-	Up to 30m	4
SATATYA MIBR50FL28CWP	SATATYA MIDR50FL28CWP	5MP	Fixed	2.8mm	Yes	Yes	Up to 30m	4
SATATYA MIBR50FL40CWP	SATATYA MIDR50FL40CWP	5MP	Fixed	4mm	Yes	Yes	Up to 30m	4
SATATYA MIBR50FL60CWP	SATATYA MIDR50FL60CWP	5MP	Fixed	6mm	Yes	Yes	Up to 30m	4
SATATYA MIBR20FL28CWS	SATATYA MIDR20FL28CWS	2MP	Fixed	2.8mm	-	-	Up to 30m	4
SATATYA MIBR20FL36CWS	SATATYA MIDR20FL36CWS	2MP	Fixed	3.6mm	-	-	Up to 30m	4
SATATYA MIBR20FL60CWS	SATATYA MIDR20FL60CWS	2MP	Fixed	6.0mm	-	-	Up to 30m	4
SATATYA MIBR20FL28CWP	SATATYA MIDR20FL28CWP	2MP	Fixed	2.8mm	Yes	Yes	Up to 30m	4
SATATYA MIBR20FL36CWP	SATATYA MIDR20FL36CWP	2MP	Fixed	3.6mm	Yes	Yes	Up to 30m	4
SATATYA MIBR20FL60CWP	SATATYA MIDR20FL60CWP	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	5MP	Fixed	2.8mm	-	-	Up to 30m	4
SATATYA MITR50FL40CWS	5MP	Fixed	4mm	-	-	Up to 30m	4
SATATYA MITR50FL60CWS	5MP	Fixed	6mm	-	-	Up to 30m	4
SATATYA MITR20FL28CWS	2MP	Fixed	2.8mm	-	-	Up to 30m	4
SATATYA MITR20FL36CWS	2MP	Fixed	3.6mm	-	-	Up to 30m	4
SATATYA MITR20FL60CWS	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	5MP	Fixed	2.8mm	-	-	Up to 30m	4
SATATYA MITC50FL40CWS	5MP	Fixed	4mm	-	-	Up to 30m	4
SATATYA MITC50FL60CWS	5MP	Fixed	6mm	-	-	Up to 30m	4
SATATYA MITC20FL28CWS	2MP	Fixed	2.8mm	-	-	Up to 30m	4
SATATYA MITC20FL36CWS	2MP	Fixed	3.6mm	-	-	Up to 30m	4
SATATYA MITC20FL60CWS	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	5MP	Fixed	2.8mm	Yes	Yes	Up to 30m	4
SATATYA RIDR50FL40CWP	5MP	Fixed	4mm	Yes	Yes	Up to 30m	4
SATATYA RIDR50FL60CWP	5MP	Fixed	6mm	Yes	Yes	Up to 30m	4
SATATYA RIDR20FL28CWP	2MP	Fixed	2.8mm	Yes	Yes	Up to 30m	4
SATATYA RIDR20FL36CWP	2MP	Fixed	3.6mm	Yes	Yes	Up to 30m	4
SATATYA RIDR20FL60CWP	2MP	Fixed	6mm	Yes	Yes	Up to 30m	4

PAN-TILT-ZOOM 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

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

SOME ESTEEMED CUSTOMERS

BFSI
- Commercial Bank of Congo
- National Health Insurance Fund - Tanzania
- Vaijapur Merchant Bank

CONSTRUCTION
- L&T Construction - Commnet
- Prestige Jindal City
- Panchsil Group
- Infocare Tower
- Bhartiyar City
- RRVP Banglore
- 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.

For further information, please contact:

Due to continuous technology upgradations, product specifications are subject to change without notice.