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# **IRIS+**<sup>™</sup> Professional

**Product sheet** 

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IRIS+ Professional is a next-generation video analytics platform that enables text-based searches and complex event detection across live and historical video data in a single, seamless interface.

# **Welcome to IRIS+ Professional**

IRIS+ Professional is a cutting-edge video analytics platform designed for both live, forensic and historical data. Powered by state-of-the-art deep learning and multimodal models, it provides unparalleled flexibility, scalability, and efficiency. By separating the analytics workflow into two distinct phases – **Indexing** and **Querying** – IRIS+ Professional delivers fast, robust, and adaptive solutions across a wide range of use cases.

IRIS+ ForensiQ is a vital part of IRIS+ Professional empowering video investigators to quickly identify individuals and objects of interest using free-text search, analyze hours of footage within minutes, and streamline collaboration for faster case resolution. With its unparalleled speed, easy to use interface and built-in redaction capabilities the return on investment in time saved and the value it brings, is unmatching.

## Powerful in all aspects

**Speed of Installation:** Download the license file, run it and in less than 30 minutes (upon the installation) the AI automatically begins indexing the field of view, detecting and categorizing objects, people, and activities in real time for seamless search and analysis.

**Reduced hardware cost:** Leveraging state-of-the-art models IRIS+ ForensiQ capitalizes on reduced inference / hardware costs and a shift toward more general, reusable neural networks. This enables text-based video searches, powerful few-shot learning, and rapid classifier deployment.

**Simple License Structure:** Perpetual license and pay per channel. Included is unlimited users, unlimited search and case management as well as unlimited queries.

Irisity is a global provider of AI-powered video analytics software, with 20 years of experience in a variety of vertical markets. Irisity offers real-time detection, search, and operational insights to their customers through both on premise or cloud deployments. **IRISITY AB** 

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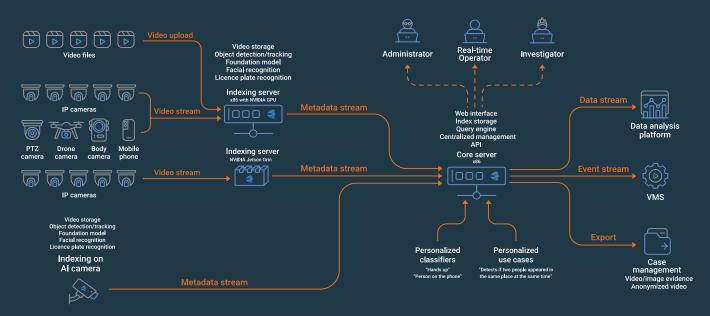
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- Runs on x86 hardware with NVIDIA GPUs
- Add pluggable components
- Supports fixed and moving cameras

## **System Definitions**

Built on x86 hardware with NVIDIA GPUs, IRIS+ Professional ensures high-performance processing, enabling efficient deep learning inference at scale. Its innovative two-phase approach — Indexing and Querying — creates a compact metadata index that supports object detection and background analysis for fast and flexible searches.

| System Component      | Description   |
|-----------------------|---|
| Core server           | There is one central Core that handles central management, it stores index metadata and runs live and ad-hoc queries.   |
| Indexing server       | The indexing server stores and processes video streams and manages deep learning models such as object detection, tracking, face recognition and more.  |
| Query engine          | Query engine is a service running on the Core. It runs live and ad-hoc queries.   |
| Video storage         | Video storage is a service on the indexing server. It stores high quality video data coming from IP cameras or uploaded videos.   |
| IP camera and VMS/NVR | IRIS+ Professional supports and analyzes any type of RTSP stream coming directly from an IP camera or VMS/NVR. This can be fixed as well as moving cameras being PTZ, Drone, Mobile as well as Body worn cameras. |
| Server hardware       | The hardware platforms supported are x86 with NVidia GPU, NVidia jetson or Al cameras.  |
| API Integration       | Being ready to integrate, IRIS+ Professional has an Open API for third party integrations.  |



IRIS+ Professional Architecture and Diagram

# **IRIS+ Professional Benefits - A Unified Solution**

This is a next-generation video analytics platform that enables text-based searches and complex event detection across live and historical video data in a single, seamless interface. Understanding key definitions will give you insights into how IRIS+ Professional transforms video surveillance into a proactive, data-driven solution.

| Capabilities                       | Explanation  |
|------------------------------------|--|
| The solution in short              | IRIS+ Professional AI platform enables text-based and forensic searches and complex event detection across live and historical video data in a single, seamless interface. By separating the process into indexing and querying, it ensures efficient storage and fast, flexible searches. |
| AI Classifier                      | An AI Classifier classifies an object or background to a predefined set of classes. This can be for example a person wearing/not wearing face mask, a person wearing/not wearing PPE helmet and more.  |
| Use Cases                          | The solution has built-in use cases such as near miss detection, tailgating and more.  |
| Free text Search                   | The powerful search capabilities include free text search where the operator/user can write what to search for. Example "find a person in red shoes sitting and watching their phone." This is also known as Natural Language Queries.   |
| Instant search                     | Define search queries and save them by allowing the operator/user to have instant search capabilities to retrieve vast video data within seconds. Multi-camera search is supported in Live as well as playback.  |
| Multi-layer Rule engine            | The multi-layer rule engine allows for applying two filters at the same time. Mix-and-match two different rules, object types as well as object parameters for example, "detect cars" + "running red lights".  |
| Combined Event Detection           | Identify intricate events e.g., "Detect cars running red lights".  |
| Face recognition                   | Face recognition, face search, white/black-list detection, track and trace and/or person re-identification is included as part of the solution. (Available Q2)   |
| Anonymizer (blurring)              | Redaction works in Forensic, Offline Analytics and as well as exported/uploaded video footage when building the case management. The Anonymizer is designed to blur individuals and blur levels can be configured down to excluding specific individuals from anonymization.               |
| License Plate Recognition          | Search for license plates, track the full car journey, define white/black-list detections and capture generic and country independent license plates. (Available Q2)   |
| User, - and Centralized Management | User based permission (multiuser level.) Centralized management allows administrators to control and monitor the entire surveillance network from a single interface. (Q2)   |

## **AI Classifiers**

The AI classifiers are a fundamental component in the solution as they are used to categorize data into predefined groups based on patterns and features. This can be identifying objects, actions, and scenes, enabling automated decision-making and insights extraction.

| Classifier                            | Behavior  | Area   |
|---------------------------------------|---|--|
| Person posing                         | A person's pose as standing,<br>sitting or lying down         | Healthcare, Safety, Workplace,<br>Transportation (rails) |
| Person holds a phone                  | A person is talking on the phone                              | Safety zone / where cell phones are not allowed          |
| Person raising hands                  | Detects if a person raises both hands up (or not)             | Bank, Malls, Retail, Public spaces, Schools              |
| Person with helmet (PPE)*             | Detects if a person wears or not a safety helmet              | Safety in construction sites and zones                   |
| Person with vest (PPE)*               | Detects if a person wears or not a safety vest                | Safety in construction sites and zones                   |
| Person with face mask                 | Detects if a person wears or not a face mask                  | Healthcare medical staff/patients, riots in public       |
| Fire and smoke                        | Detects if there is fire or smoke in the background.          | Fires in remote areas or buildings                       |
| Vehicle in Construction               | Classifies and detects a construction vehicle<br>(12 classes) | Construction sites as well as Safety announcements       |
| Vehicle for Emergency                 | Classifies a vehicle as normal/emergency                      | Smart Traffic, Vehicles for Healthcare Facilities        |
| * Personal Protection Equipment (PPF) |   |  |

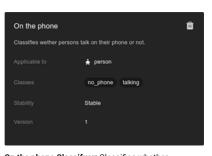
\* Personal Protection Equipment (PPE)



**Gender Classifier:** Classify a person as male or female based on upperbody features



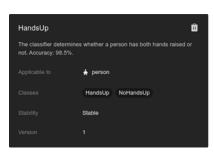
Helmet Classifier: Detects if a person wears a helmet



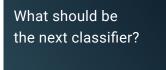
On the phone Classifyer: Classifies whether a person is on the phone

| FaceMask                                |                                      | Ô |
|---|--------------------------------------|---|
| Detects if a person wears a f<br>98.88% | ace mask. Single detection accuracy: |   |
|   | 🛧 person                             |   |
|   | Mask UnSure                          |   |
|   | Stable                               |   |
|   |                                      |   |
|   |                                      |   |

FaceMask Classifier: Detects if a person wears a face mask.



HandsUp Classifier: Determines whether a person has both hands raised



# **General and Personalized Use Cases in AI and Classifiers**

Artificial Intelligence (AI) and machine learning classifiers serve a wide range of applications, which can broadly be categorized into **general use cases** and **personalized use cases**.

IRIS+ Professional brings a flexible rule engine that allows users to create tailored search scenarios using a comprehensive set of filters and combinations. These search filters enable highly specific queries across video streams or recordings to find objects and events of interest. Search by object type, attributes as gender, helmet and more, movement patterns, zones, object size, and detection confidence. These use cases address real-world challenges by leveraging advanced video analytics technology, such as Object detection, Tailgating, or Behavior Analysis. Examples include detecting unauthorized access, counting objects or vehicles, identifying safety violations, or conducting text-based video searches

#### **General use cases**

| Use case                    | Description & Scenario  |
|-----------------------------|---|
| Dwell/travel time analysis. | Measure dwell and/or travel time between predefined areas and zones.<br>IRIS+ Professional re-identify by face. |
| Intrusion /loitering        | Detect if a person enters an area and stays there for a given time.   |
| Pedestrian crosswalk        | Detects if a vehicle does not yield for a pedestrian.   |
| Red light car crossing      | Detects if a vehicle runs the red light.  |
| Car in bus lane.            | Detects if a car is in the bus lane.  |
| Car stop                    | Detects if a vehicle stops in a restricted area.  |

### Personalized use cases

| Use case             | Description & Scenario   |
|----------------------|--|
| Video                | Select set of videos and/or streams  |
| Object type          | Supports 80 different object types (person, vehicles, objects) and background included |
| Object classifier    | Apply any of the registered classifiers (e.g. gender, wearing mask, PPE, etc)          |
| Object movement      | Enable search by movement: start, stop, line cross, moving, stationary                 |
| Zone                 | Define the zone for the analytics  |
| Object size          | Filter by pixel size range.  |
| Detection confidence | Filter by detection confidence from 0 - 100%.  |
| Joint filtering      | Combine two filters by space, time and object  |

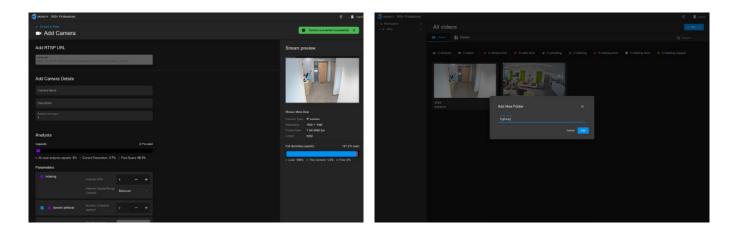
## Easy to use interface, with detailed overview

Smart view capabilities offers distinct advantages for security, investigations, and operational efficiency.

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|---|---|--------------------------------------|--|
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| Title Subry tobar search     Subry tobar search     2 visitos and 4 sarrayse    | Select date and time Ouck setting to the says set to 2 hours here 11 do   |                                      | Kellendarupa     Select Videos and Cameras     belong     2 videos and 4 cameras one selected     2 videos   |
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| O Object type *   | Avaidable firm: 252402.09 1150015000      Instructional control rooms of a control room of a cont | O Object type *                      | Vélo, Mine  |
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## Easy to configure

With adaptive and personalized filters, users can refine searches by date, time, classifiers, tailoring results to their needs.



## Video upload and case management

Unlock actionable insights from both live and recorded video with unparalleled speed and accuracy.

| STRISTY IRIS- Professional           | SIRISITY IRIS+ Professional   |   |  |   |        |              | र्द्ध Anna S             | imith 👤        |  |
|--------------------------------------|---|---|--|---|--------|--------------|--------------------------|----------------|--|
| ← Go back to Faller     Upload Video | - Q. Search for site name   | Building                                | A  |   |        |              | + Set up New I<br>Q. Sea |                |  |
| Select a Video                       | <ul> <li>Building A</li> <li>Concentral, stream, n.</li> <li>No. contral, stream, n.</li> <li>Scorety</li> <li>Casei</li> </ul> |   | Isaved Officested Officence Office   |   |        |              |                          |                |  |
| Server: a Video                      |   | <ul><li>Saved</li><li>Crosted</li></ul> | Person with yellow helmet person<br>Animal with object type search                           | **  |        |              | Continue Edition         |                |  |
| Supported format: .mpt, .mkv or .mov |   | <b>O</b> 78%                            | Person with yellow helmet person with yellow helmet  |   |        |              | View Results             |                |  |
| Add Video Details                    |   | O Running                               | Person with yellow helmet person with yellow helmet  |   |        |              | View Results             |                |  |
| Video Name                           |   | <b>3</b> 56%                            | Person with yellow helmet person with yellow helmet  |   | Simple |              | View Results             |                |  |
| 5                                    |   | • the                                   | Person with yellow helmet person with yellow helmet with<br>long the that breaks into 2 rows | * 0   |        | <b>III</b> 1 | View Results             |                |  |
| Description                          |   |   | 🤗 Finished   | Pieson with yellow helmet person with yellow helmet |        |              |                          | 👩 View Results |  |
| Start Date and Time                  |   | 🥏 Finished                              | Person with yellow helmet person with yellow helmet  |   |        |              | D View Results           |                |  |
|                                      |   | Stopped                                 | Person with yellow helmet person with yellow helmet  | ê   | Simple | <b>106</b> 3 | View Results             | 1              |  |



# See what matters, when it matters

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