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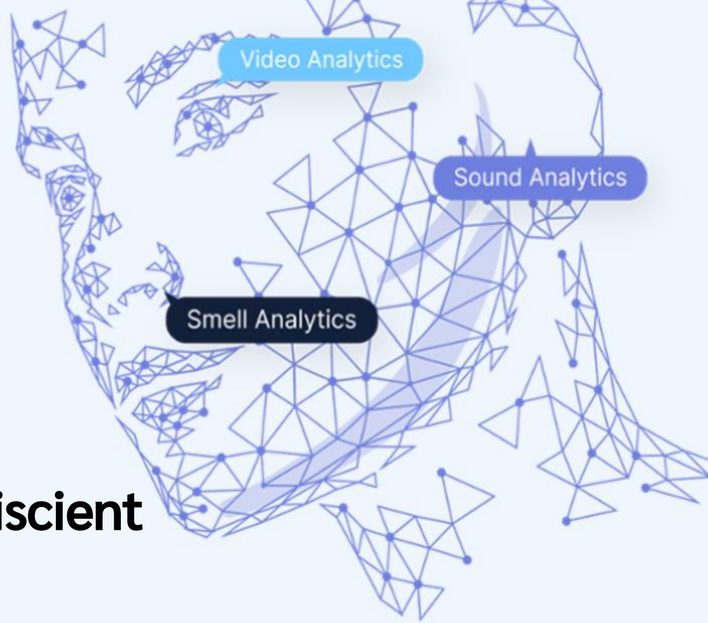
iQ-Airport
: BIRD FLOCK DETECTION



Airport hazard detection, alarms and deployment options

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Aviation Hazard

Bird flocks threaten aircraft during takeoff and landing

ENGINE DAMAGE

Bird flocks can damage aircraft engines.

RESTRICTED VISIBILITY

Bird flocks can restrict visibility during takeoff and landing.

ACCIDENT RISK

In the worst case, an encounter with a bird flock can cause a serious accident.



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Detection and Alarm

The system turns a visible flock into an operator alert



01

BIRD FLOCK

Birds enter the monitored airfield view.

02

CAMERA

Suitable imaging observes the flock.

03

AI DETECTION

Software detects the flock.

04

ALARM

Traffic control receives an alarm.

05

ACTION

Managers decide what action to take.

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Camera Choice

Night operation and weather determine suitability



VISIBLE-LIGHT CAMERA

Camera choice depends on weather and light.
Not every camera can detect birds at night.



THERMOGRAPHIC

Thermographic cameras are ideal for day and night operation.

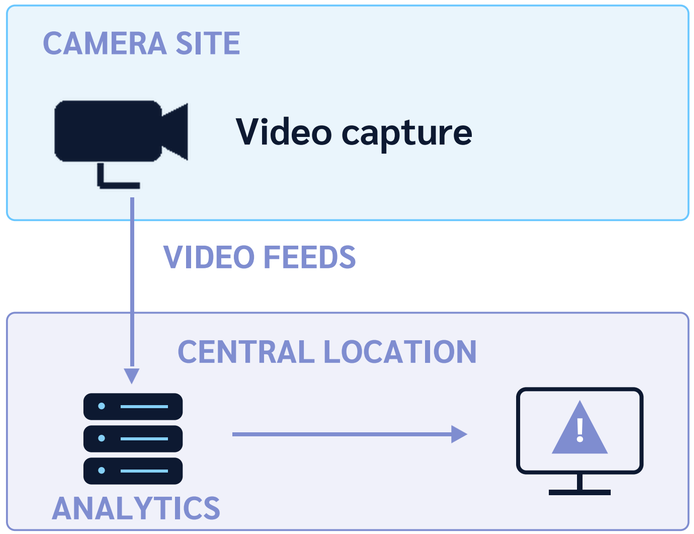
All iOmniscient software supports ONVIF-compliant cameras.
It has also been interfaced with a range of non-compliant cameras.
Camera suitability depends on weather and lighting conditions.

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Architecture Options

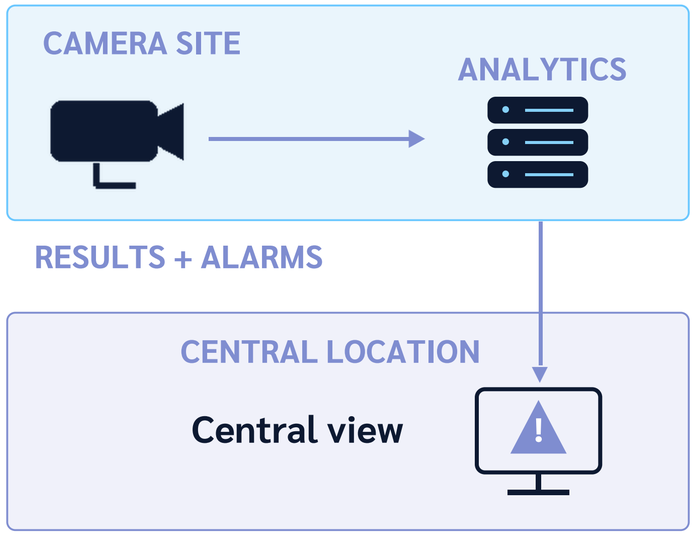
Compute location follows network conditions

01 CENTRALIZED



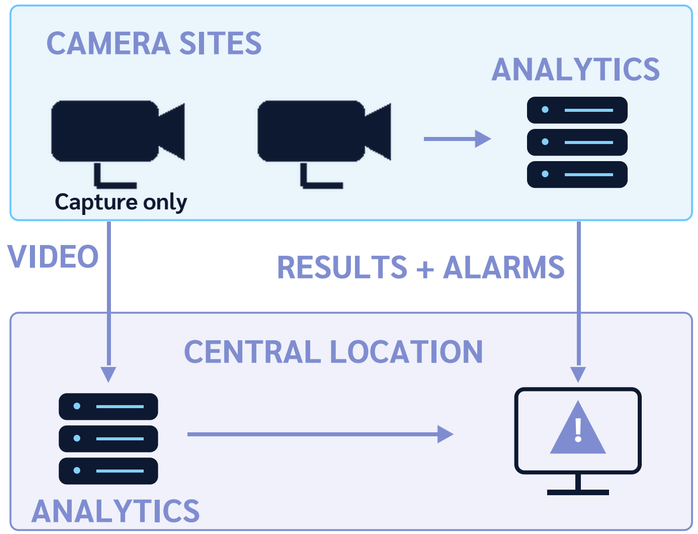
Analysis at the central computer

02 DISTRIBUTED / EDGE



Analysis near the camera

03 HYBRID



Analysis at both locations

POOR CONNECTIVITY >> Distributed processing is recommended.

No GPUs required

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Computing and Supply

Open software with specified hardware guidance

COMPUTING

- Run on an Intel computer with appropriate capacity and Microsoft Windows OS.

- For edge processing, a ruggedized Super Edge computer is recommended.

SOLUTION

- iOmniscient can provide cameras and computers.

- iOmniscient provides advice on camera placement and hardware specifications.

- Software licensing is perpetual, subscription or rental.

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iQ-Airport Context

Bird flock detection is part of the wider suite



iQ-Airport spans runway, tarmac, airside, landside, parking and outside roads.

INTEL Intel classifies the software as a Market Ready Solution.

OEM Available on an OEM basis from Dell, Lenovo, CISCO, Siemens and Huawei.

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About iOmniscient

Partnership

All iOmniscient Products run exclusively on Intel based computing hardware using OpenVINO™

- The use of Advanced AI technology that goes beyond Deep Learning enables iOmniscient to run its systems without the need for 3rd party GPUs.
- This reduces the power required by a factor of 16 – resulting in a 16-fold reduction in the carbon footprint.
- This is just one part of a multi-faceted program to help customers to implement Sustainable Systems.

www.iomni.ai

enquiries@iomni.ai

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About iOmniscient

- iOmniscient is an **Ethical AI** company.
- It offers **multi-sensory (video-sound-smell) Artificial Intelligence based analytics for Autonomous Systems.**
- It focuses on ensuring **Outcomes** for its customers.
- With **over 2 decades of experience,** iOmniscient systems have been demonstrated to be **robust,** operating with high accuracy and few false alarms specially in **complex and crowded** environments.
- By design, its systems **reduce the cost of infrastructure** required:
  - they can use existing cameras
  - they require fewer cameras with lower resolution
  - they require 90% less storage and network bandwidth
  - they are computing light and require no GPUs
  - they allow autonomous operations requiring fewer personnel to operate
- iOmniscient has implemented projects in **70 countries.**
- With over **70 international patents** many of its capabilities are unique and unavailable from any other source.





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