DEKI : Local Video Analysis with AI

Modern surveillance monitoring solutions

www.deki.ai

IT Sentinel GmbH
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Introduction

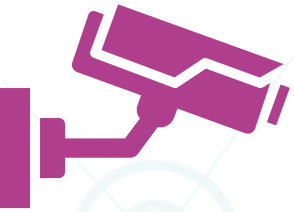
By connecting a DEKI SAFE box to an IP camera system, you will unlock our groundbreaking artificial intelligence capabilities. You'll upgrade your camera system to a highly accurate perimeter detection solution, effectively eliminating false alarms.

Anyone familiar with DEKI knows that our innovative Edge A.I. technology with our customized approach to client needs keeps us ahead of the competition. This technology is the foundation of our DEKI SAFE solution.

Integrating our A.I. into an existing camera detection system ensures real-time, on-site analysis of observed images. This dramatically improves accuracy and reduces false alarms to a minimum. As a result, customers are only alerted when there's an actual "EVENT" on their property, making the system more cost-effective.

Control rooms will also benefit from DEKI, as fewer false alarms mean less work for operators, allowing them to focus on preventing genuine threats.

In this document, we will discuss:
- The issues with traditional motion sensor detection setups
- How DEKI addresses false alarms and ensures high detection accuracy
- Local Detection: What are the advantages of "edge" video analysis?



Perimeter Protection | Intrusion Detection | Vehicle Detection | Custom Recognition

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The Challenges with Traditional Motion Sensor Setups

Traditional motion detection alarm systems have played a crucial role in security for years, but they face multiple challenges that impact their overall effectiveness. The most significant challenge is their susceptibility to false alarms due to environmental factors and dynamic environments. These false alarms lead to wasted resources, reduced user trust, and diminished effectiveness of the systems. Additionally, traditional systems have limited range and coverage, causing blind spots and leaving areas vulnerable to intrusion. This limitation is compounded by their inability to differentiate between objects. These systems often can't distinguish between passing cars, small animals, or wind, and actual threats, which increases time wasted for alarm center operators on verifying the cause of alarm.

Finally, since motion sensors often have to be paired with cameras for effective surveillance, eliminating them for a more efficient alternative can cut costs associated with their installation, which can get expensive due to wiring and other hardware requirements often needed for their integration.

Considering these challenges, users may seek more advanced and cost-effective alternatives that offer better performance, reliability, and compatibility with modern surveillance systems.

PROS	CONS
Wide availability	High false alarm rates
Do not invade privacy	Inability to differentiate objects
Low maintenance	Limited range and coverage
	Additional installation costs

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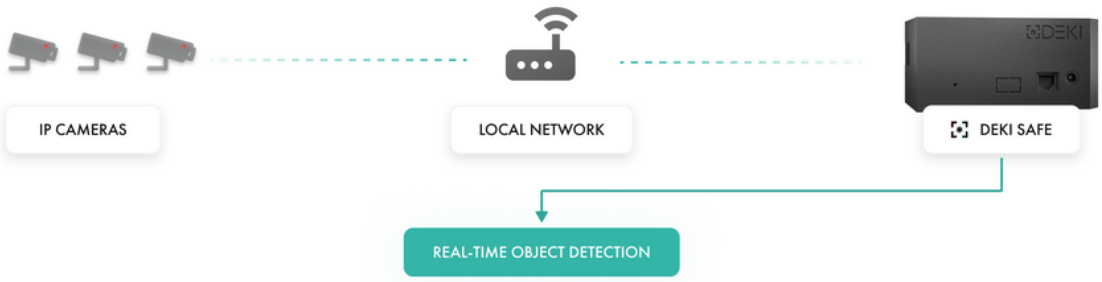
How DEKI Addresses False Alarms

The DEKI solution comprises the DEKI SAFE box, which connects to your local area network (no internet connection? No problem!) where you have connected your IP cameras and unleashes cutting-edge Local Video Analysis technology to your existing surveillance system.



The A.I. analyzes and filters images from the video source, distinguishing between humans, animals, and objects. This ensures that only relevant detection's are forwarded, sparing the control room and end-users from annoying false alarms, created by other objects or environmental factors. Additionally, users can define a specific polygons or "detection zones" to not detect objects in a whole PoV of the camera, but to detect objects of interest only in a specific zones.

To identify and classify objects as vehicles, humans, animals, or anything else, we "train" detection models on a dataset of images using machine learning and deploy them to the DEKI SAFE. This provides a way to detect almost unlimited number of object types and contexts for clients unique surveillance needs, enhancing the system's functionality.

By default our DEKI SAFE box is configured with advanced human and vehicle (Car, Truck, Bus, Bicycle, Motorcycle) detection model to cover essential security monitoring needs. Different object models are able to be developed and deployed on the device.

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To the Edge: How Local Computing is Revolutionizing the Way We Approach Video Surveillance

The number of devices at the edge of our security networks is increasing, and they play a progressively crucial role in our safety and security. The advantage of edge computing lies in the fact that more capacity is built directly into the connected device instead of external server, ensuring that information processing is as close to the source as possible.

For a video surveillance network, this means that more actions can be performed directly at the location. The role of A.I., machine learning, and deep learning in video surveillance is expanding, allowing us to 'teach' our cameras to be much more intuitive about what they are filming and analyzing in real-time. For instance, is the vehicle in view a car, bus, or truck? Is the subject approaching your building an animal or a human? Was the alarm just now real or just environmental movement?

These insights help reduce the human input needed to analyze data and make decisions. Ultimately, this should speed up response times - potentially saving lives - and provide valuable insights that can shape the future of our buildings, cities, and transportation systems.

The DEKI SAFE is installed locally on the client premises, connected directly to clients local area network and can be updated remotely (if the client decides to open internet access to the device), ensuring every DEKI system remains up-to-date without the need for on-site visits. The main benefit of a local computing computer vision device in surveillance is its ability to provide real-time, accurate object detection and analysis, reduce the latency typically associated with cloud-based solutions, leading to faster response times and improved security outcomes. Furthermore, local computing in surveillance offers enhanced data privacy, as video data is processed and stored on the device itself without being transmitted to external servers, reducing the risk of unauthorized access or data breaches. Ensuring that your detection data stays yours.

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Conclusion

As you can see, the DEKI SAFE solution has a number of benefits for every stakeholder. End users might not care about the superior processing or analysis capabilities that our Local A.I. technology provides, but they will be thankful for the absence of false alarms, and the ability to detect and deter intruders before they cause damage. By offering DEKI SAFE, you'll become a preferred partner for any control room, giving them the breathing room to focus on what truly matters - identifying threats as soon as possible.

This revolutionary technology allows our DEKI SAFE box to transform any IP camera detection system into a proactive perimeter security system. Because the Local A.I. can be updated with more detection models, any property is effectively "futureproofed". And the cherry on top: a price tag that other local computer vision solutions can only dream of.

Want to see ? We're more than happy to set up a demo.

Then give us a call, or scan the QR-code to book a meeting! -->

Advantages of DEKI SAFE:

Data Privacy

Deep Learning

Offline Functionality

High Accuracy

Businesses & homes

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