Introduction to KACSA v2

2022

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KACSA® V2.0

INTRODUCTION

KACSA v2.0 Overview

CAMERA & ALERT LIGHTING SUPPORT FOR MACHINERY DETECTION

Optional 2nd unit at blindspot

Driver

COLLISION ZONE

DANGER ZONE
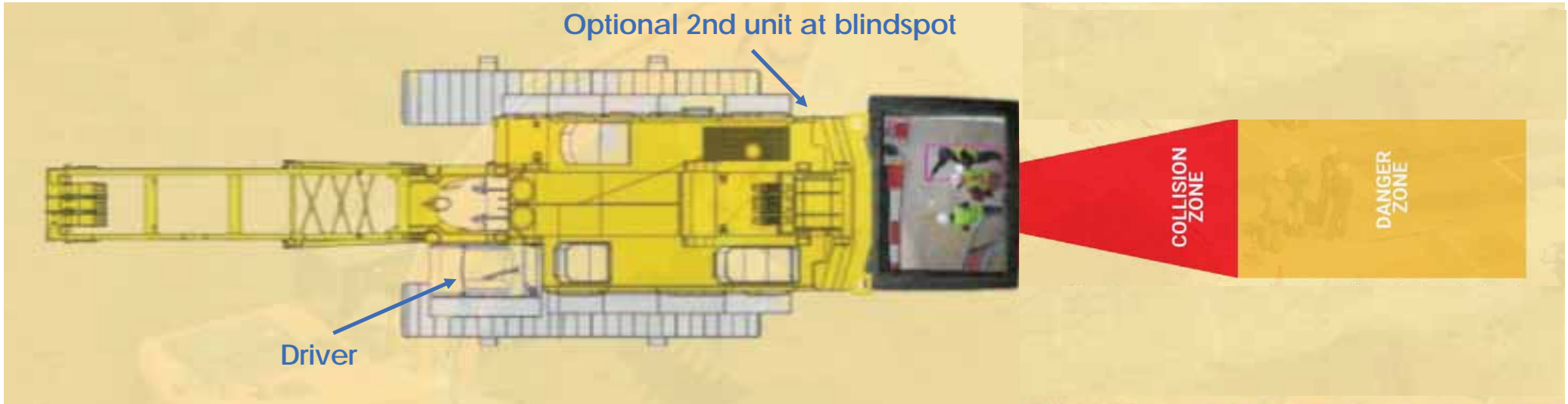
Processing Unit
- Trigger alert within 0.5s

Live Monitor x1
- Worker detection & PPE compliance detection

Cameras: x2
- Photo snapshots & optional smart recording

Detection Zone
- Adjustable Danger and Collision Zone

External Alerts: x2
- Zone based alert lights

Remote alerts & remote device management
- Data upload to cloud, remote device management

Mobile phone and tablet applications

Login Credentials

Device Management

Project Tabs

Incident Viewer

Alerts and Notifications

Daily Incident Count Charts

MOBILE APP UI

DEVICES MANAGEMENT & NOTIFICATION FOR MULTI-SITE USAGE

Unique Device Names

Different Login credentials to access specific Sites/Project

Easily switch to various Active/Inactive sites

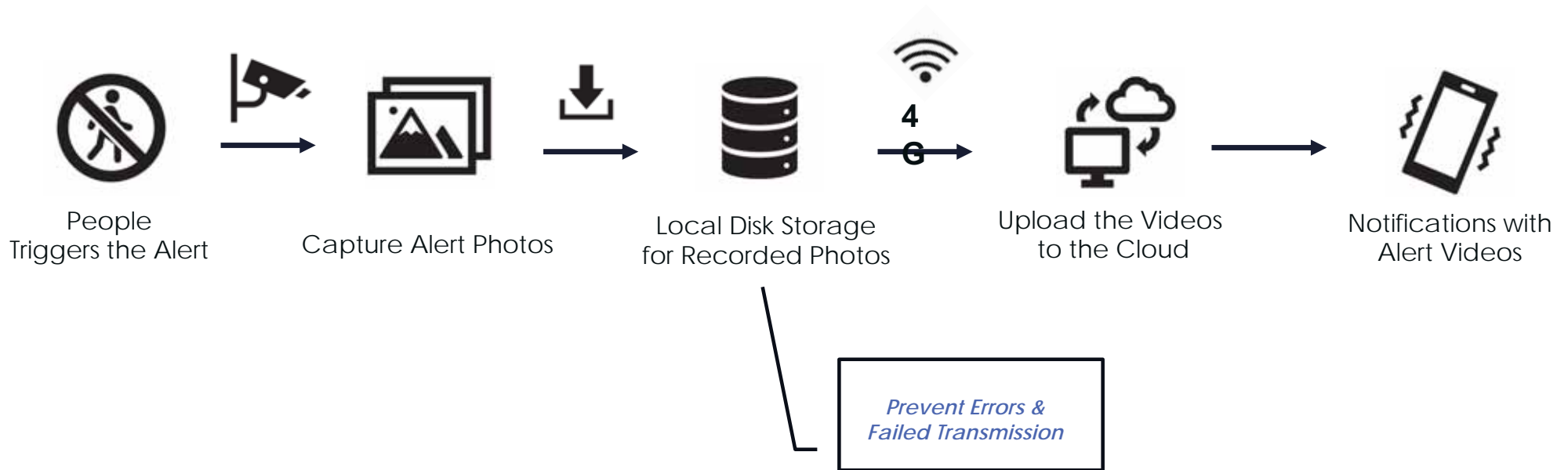*Automatically connects to Corresponding Devices list and incident list*

PROPOSED SOLUTION

USER CONFIGURABLE ALERTS & INCIDENT'S PHOTOS CAPTURES

People Triggers the Alert

Capture Alert Photos

Local Disk Storage for Recorded Photos

4G

Upload the Videos to the Cloud

Notifications with Alert Videos

Prevent Errors & Failed Transmission

HARDWARE INSTALLATION

KACSA v2.0
Installation Position

Customized
Antenna
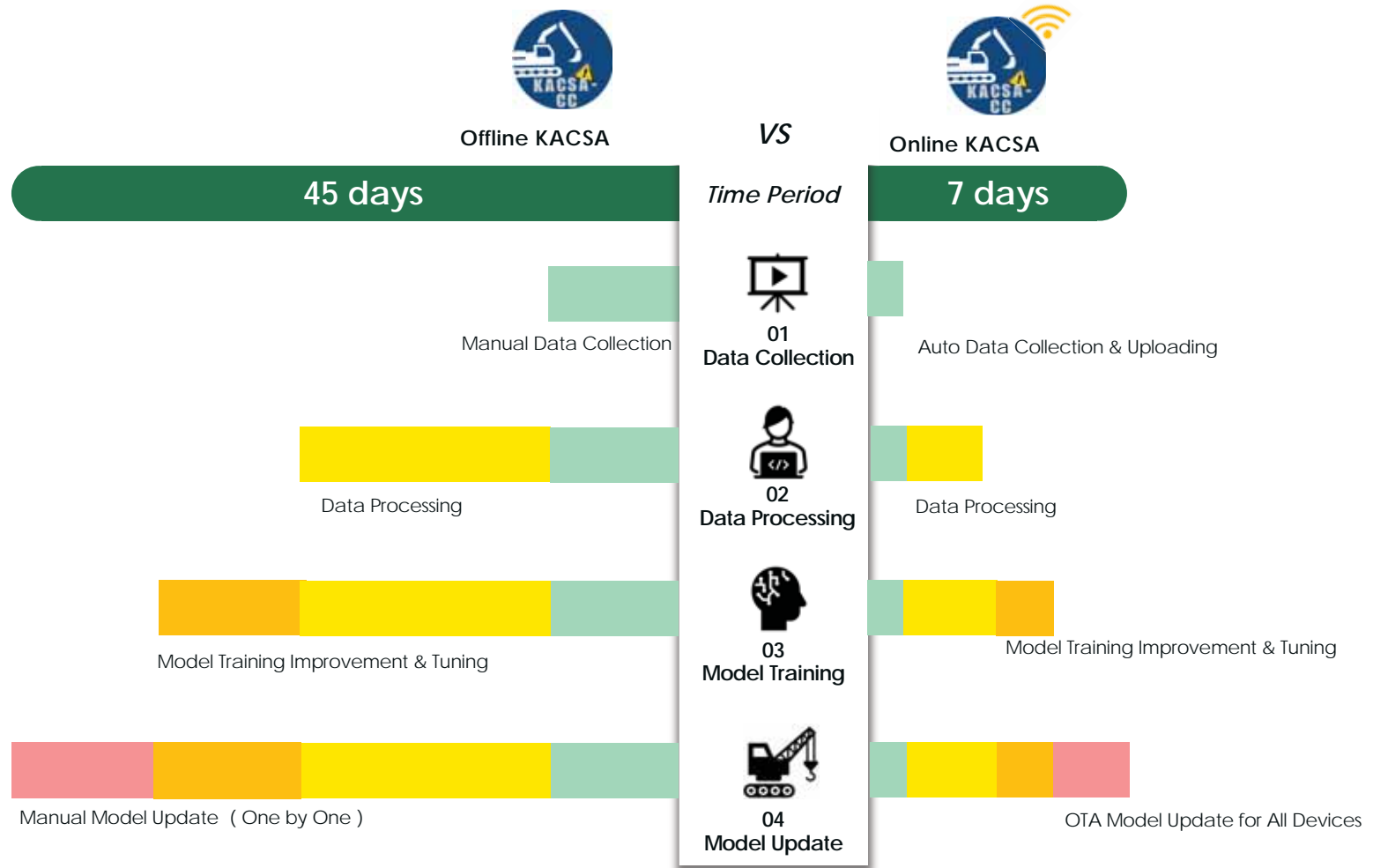
Connect to:

- *KACSA – site level safety reporting such as:*
  - *Zone-based AI & worker activity reporting*
  - *Detection trending & heatmaps*
  - *Safety indicators & targets*
  - *Advanced analytics for data collection & compilation*
  - *Worker location & more*

- *KALPA – customizable smart light-based sensor & IoT device*
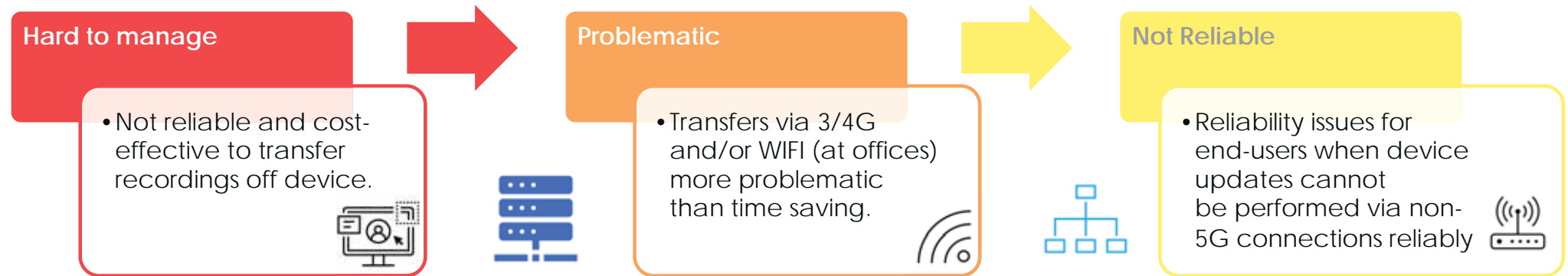
AI MODEL UPDATE TIMELINE COMPARISON

Offline KACSA **VS** Online KACSA

| 45 days | Time Period | 7 days |

01 Data Collection

Manual Data Collection | Auto Data Collection & Uploading

02 Data Processing

Data Processing | Data Processing

03 Model Training

Model Training Improvement & Tuning | Model Training Improvement & Tuning

04 Model Update

Manual Model Update（One by One） | OTA Model Update for All Devices

5G BASED

Problem of Offline Devices

Hard to manage

- Not reliable and cost-effective to transfer recordings off device.

Problematic

- Transfers via 3/4G and/or WIFI (at offices) more problematic than time saving.

Not Reliable

- Reliability issues for end-users when device updates cannot be performed via non-5G connections reliably

Solution

❑ Installing MEC devices equipped with 5G modules on cranes.

❑ IP based CCTV cameras will be directly connected to the MEC devices.

❑ All AI processing will be performed locally on the MEC with AI triggered video clips

(worker proximity alerts and PPE non-compliance alerts), sent to the cloud via 5G.

THANK YOU