

BodyGuard

Aircraft Damage Prevention System

No-Touch Policy
Retrofit your fleet



About Us

TriLogical, has been a leader in the field of Mobile Assets Management Solutions for over two decades. During that time, we've been developing smart Remote Access and Diagnostic Systems that deliver high-end customized remote control and real-time alerts. Our proprietary products have been implemented in global projects comprising, railways, airports, critical logistics, defense & security organizations.

At TriLogical we bring our unique technological expertise and vast experience in performance analysis and system definition and combine it with a robust software infrastructure and a highly experienced team. This custom blend provides a smooth operation process, bringing maintenance efficiency, safety, accessible customer support, and the enhancement of management & decision-making processes to the fore, along with ensuring significant savings for every budget. Every comprehensive package fully and easily integrates into onsite 3rd party sensors and systems. Both our satellite and cellular solutions (based on flexible hardware and software) are suitable for every environment regardless of how harsh or challenging.

BodyGuard - Aircraft Damage Prevention System

The BodyGuard is an onboard combination of sensors and telemetry which coordinates GSE's approach to the aircraft by controlling both the speed and stop procedures according to IATA AHM 913 standards. It provides the operator with visual and audible alerts and disables the GSE in the event of an incident. When integrated with our Airside Mobile Asset Solution, the BodyGuard provides a damage prevention and monitoring system that tracks and controls your GSE fleet. Having been subject to thorough operation risk assessments by aviation ground operation experts, BodyGuard has proved successful.





BodyGuard

Retrofit your fleet before the 2020 deadline

Aircraft Damage Statistics From GSEs

We understand that your company's reputation is priceless, safety is paramount in the aviation business. Nevertheless, industry statistics still show that for every 1000 flights there are 1.7-2 incidents. Not only are GSE-aircraft incidents extremely costly, averaging \$78,000 for conventional craft loss, but for next-generation composite aircraft that number can rise into the millions. When added to the inestimable sum often occurring from indirect damage, risk assessment managers estimate that incidents can cost millions for a company, and more in reputation.

We know reliability and safety are primary drivers in customer retention, therefore we believe that incident prevention technology can ultimately save money and lower premiums making financial sense; protecting your company's reputation, and lowering the management's exposure to claims for consequential losses, which are consistently not covered by insurance.

GSE Damage Prevention Challenges

With the introduction of new composite materials in aircrafts such as the Boeing 787 and Airbus 350, the BodyGuard System fully conforms to the latest AHM 913 and ISAGO 2.2 technical requirements for GSEs. These requirements call for a simple, three-step automatic accident prevention-and-response system:

- Controlling GSE speed to tortoise and snail speeds
- Stopping the GSE to prevent accidents
- Alerting senior management and disabling the GSE in case of an incident

Tri-logical has developed a new GSE kit in collaboration with aviation ground operations experts. This kit can be retrofitted to any type of GSE, old or new. Tri- logical's technology facilitates direct linkages to the client's SMS (Safety Management System).

Engineering Excellency

In being part of the Ziv Av engineering group, excellence in engineering is a crucial part of what we do. The capabilities of the engineering team are multidisciplinary which puts us in the highly unique position of being able to offer solutions for any GSE fleet, regardless of age. It also allows for the control of any automotive platform. A value-added component of the BodyGuard solution is its ability to convert a passive platform, to an active motorized platform, with yaw angle correction.

Benefits

- Conforms to IATA standards and ISAGO
- Easy to retrofit on old and new GSEs
- Single, harmonized system for your entire fleet
- Real-time notifications to managers
- Captures data related to the human factor
- Eliminates unreported incidents and accidents
- Reduces aircraft downtime due to ground damage
- Improves the operator's learning curve
- Facilitates incident analysis

Characteristics



Full sensors kit mounted on GSE



Harmonized dashboards for operators



Speed control: tortoise, snail, full stop



Approach angle correction



Visual and audible incident notifications



SMS/email alert



Fully auditable trail



Record all incidents/ near misses for training & analysis

Supported GSE types



Catering / Ambulift



Passenger steps



Loaders



Conveyor belt



BodyGuard system retrofitted on a conveyor belt, passenger steps and ambulift

Driver notification panel
Visual & audio notifications

Protected Tortoise/Snail
remote sensing

Active sensing bumper
Close range proximity sensor



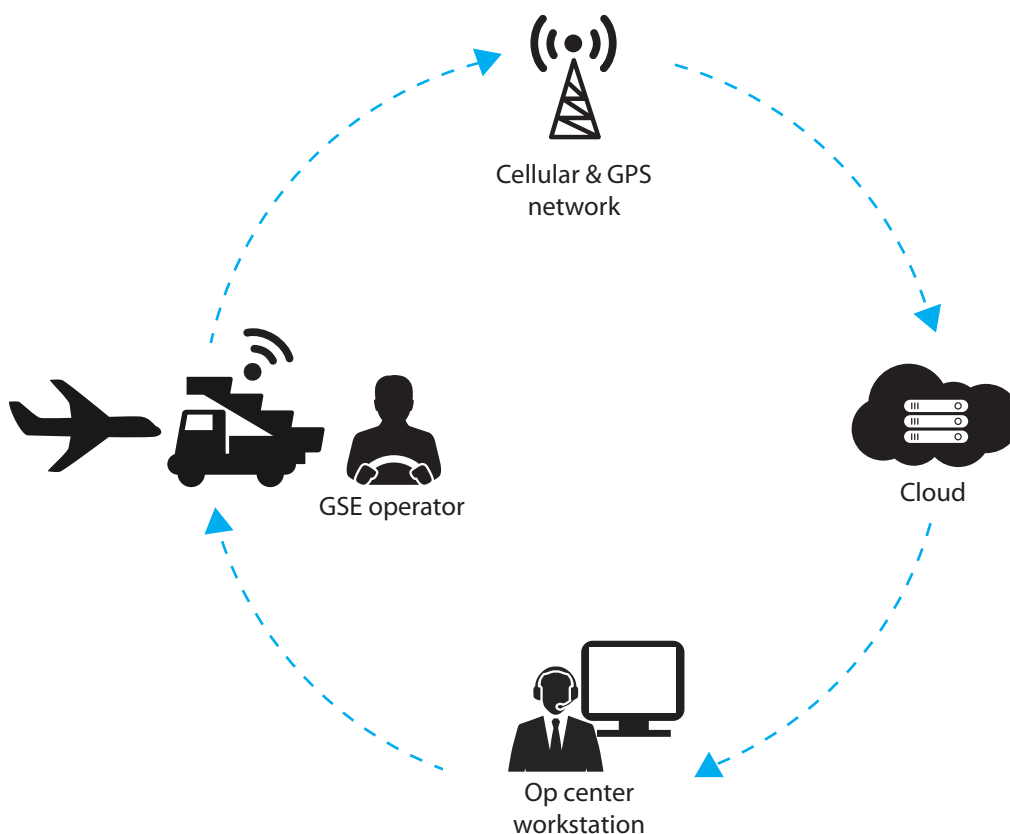
BodyGuard system retrofitted on a 25 year old FMC commander loader

Management System

Connecting the onboard kit to Trilogical's Airside Mobile Asset Solution (AMAS) enables the distribution of incident information to multiple stakeholders in real time. This allows for quick and accurate team reaction and provides tools to document, prepare, debrief, and analyze incidents.

GSE KIT

Tri-logical's state-of-the-art onboard kit combines sensors and telemetry. The system automatically slows and stops the vehicle when approaching the aircraft. It provides the operator with visual and auditory alerts and disables the GSE in the event of an incident. Integrated with Tri-logical's AMAS solution, the kit provides a 360-degree solution, tracking and controlling the entire GSE fleet. The kit has successfully undergone an operational risk assessment by aviation ground operations experts.



AMAS Components

The AMAS components are an optional premium add-on to the BodyGuard system which can be purchased upon request

Asset and employees command and control layer

- Monitor all assets over airport map in real time
- Customizable rule-based alert engine (for example e.g. exceeding speed, and restricted areas alerts)
- Assets can access control, through licensing, permits and driver IDs
- Operator and GSE permit/license module
- Visual information attained through asset status and sensors (battery status, ignition state, engine hours, temperature, etc.)
- Incident debriefing and safety events

GSE maintenance module

- Enables condition based maintenance
- Automatic alerts when GSE needs workshop admission
- Reports to balance equipment usage
- Remote blocking of malfunctioned/expired permit equipment
- Integration to existing maintenance systems

Operations management layer

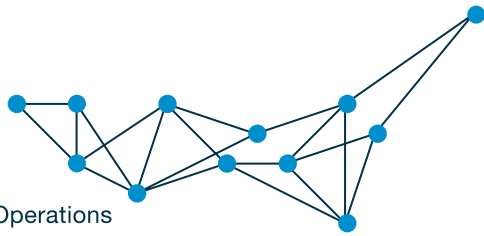
- Build or import daily tasks or SLA events
- Manage risks and communicate with field crews
- Allocate resources by availability, qualification, and licenses
- Get notifications on escalating risks
- Tasks and SLA compliance reports
- Import flight, maintenance, HR and scheduling information from airport systems
- Show tasks on the airport map

Benefits

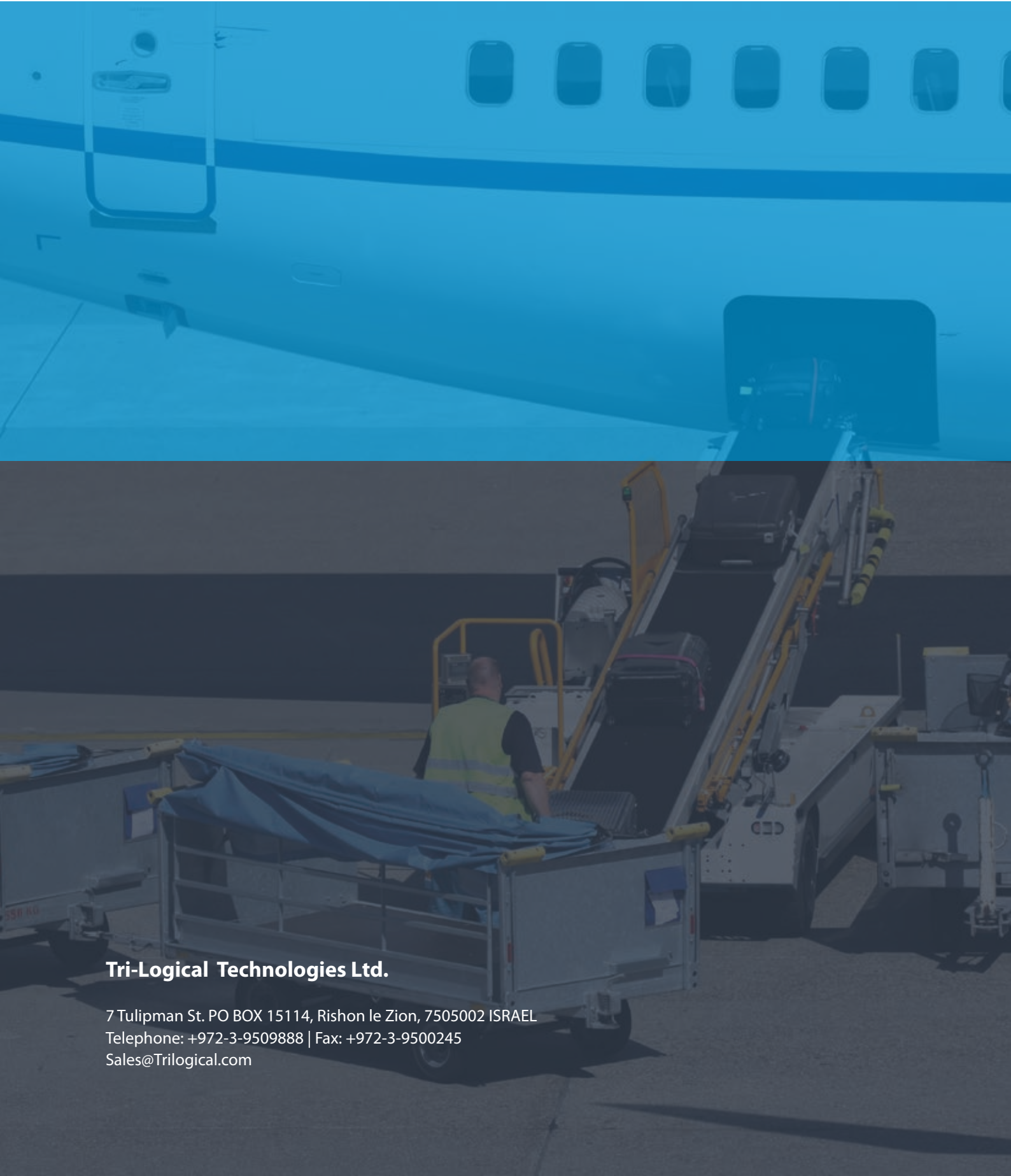
- Increase operational efficiency
- Impact aircraft turnaround time
- Increase situation awareness
- Increase availability of GSE
- Improve safety and reduce the number of accidents
- Lowered maintenance costs and fuel consumption
- Increase security by providing smart access control to assets
- Rapid ROI

TRI LOGICAL[™] AIRPORTS

Smart Solutions for Airside Operations



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