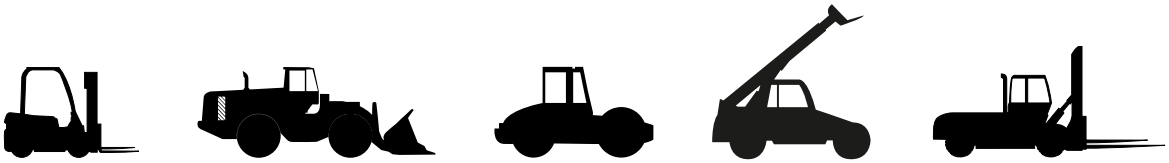
ARCURE
be secure

BLAXTAIR®

Pedestrian detection system for industrial vehicles



INTERMAT
GOLD
INNOVATION
AWARDS 2012
LAURÉAT
Catégorie Composants, Equipements & Outillage

An exclusive technology from cea list

MADE IN FRANCE

BLAXTAIR®

Prevents collisions between industrial vehicles and pedestrians

The standard of pedestrian detection

DID YOU KNOW...

...that in industry and logistics, collisions between industrial vehicles and pedestrians are amongst the most prevalent causes of serious accidents? They account for almost 15% of the deaths and constant infirmity on pedestrian/engines coactivity sites. The average cost of an industrial truck/pedestrian collision can amount up to 360.000 Euros.

Sources : INRS et CARSAT

DETECTION PRINCIPLE

Blaxtair® continuously scans its designated area. Thanks to a stereoscopic sensor it can replicate the environment within its field of view in three dimensions and render all fixed or mobile objects within it visible. These objects are then analysed by the software and classified. Should a pedestrian enter in a hazardous area within this environment they will immediately be scanned and classified and an alarm would alert the driver. This allows for ample reaction time. The whole process lasts only a fraction of a second.
A pedestrian might escape the driver's notice, but none will escape Blaxtair®'s vigilance!

Pedestrian detection zone on a forklift - Blaxtair® recognizes all the pedestrians in its field, it warns the driver about the presence of the pedestrian in the danger zone.

WHAT IS BLAXTAIR®?

Blaxtair® is an intelligent on-board camera which helps to prevent collisions between industrial trucks and pedestrians. Combined with good practice and organizational safety measures, it is the only efficient and reliable answer to meet the safety demands of industry, logistics, handling and dock work.
Blaxtair® detects any obstacle and recognizes if it is a pedestrian or not by analysing its shape. If there is imminent danger to a person it will alert the driver immediately. This allows for sufficient reaction time to prevent a potentially fatal collision. Blaxtair® warns the operator only when it is necessary.
Thanks to Blaxtair® safety no longer needs to be an impediment to productivity!

TECHNOLOGY IN THE SERVICE OF SAFETY

In order to offer the proven solution to meet your safety requirements Arcure engineers have investigated multiple actual collisions in order to perfect Blaxtair®. Its main sensor is a stereoscopic camera specifically developed by Arcure and designed to withstand the harshest environments. Blaxtair®'s performance is based on patented image processing technologies, developed over the past 15 years by the researchers of the French research Laboratory CEA (Commissariat à l'Energie Atomique). These technologies enable Blaxtair® to detect pedestrians reliably and effectively, in any industrial environment.

SYSTEM COMPONENTS

HOW DOES BLAXTAIR® COMPARE TO TRADITIONAL DETECTION SOLUTIONS?

BLAXTAIR®
+ Specific pedestrian detection
+ Accurate localisation of the obstacles
+ Additional visibility provided
+ Pertinent alarms
+ No interference

Radar, Ultrasounds, HF
+ All obstacles detected
- No additional visibility provided
- No discrimination made between pedestrians and obstacles
- Untimely alarms

Radio-Frequency RFID
Tag detection
- No additional visibility provided
- Imprecise localisation
- Interference (with mobile phones, metallic grounding)

Single camera
Passive system
+ Visibility provided
- No detection
- No alarm

WHY IS IT MANDATORY TO SPECIFICALLY DETECT PEDESTRIANS?

Most machinery operators know that traditional systems of obstacle detection (ultrasonic or HF radars) are more of a disturbance than an actual help. Vehicles constantly operate in the vicinity of objects that do not need to be detected. A forklift truck alongside a wall or a stacker between two rows of containers do not need continual alarms to warn them of these obstacles. In case such as these a traditional device will sound an alarm continuously.
Blaxtair® will raise an alarm only if a pedestrian is put in danger, even if the pedestrian has forgotten its tag.
Blaxtair® ensures pedestrian safety without unnecessary alarms to distract the operator.

SECTORS AND TECHNICAL CHARACTERISTICS

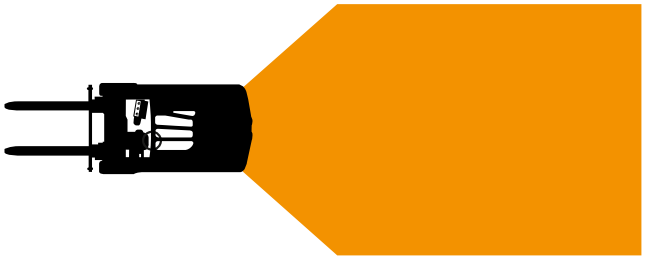
Blaxtair® is designed for harsh environments. It adapts to all types of machinery. Blaxtair® full performance is confidently assured under all conditions encountered in industrial environments (low lighting conditions, dust, rain, etc.).
It is **easy to use** and does not require **any specific maintenance**.

BLAXTAIR®

Recognizes pedestrians to better protect them

ADAPTABLE TO ALL THE TYPES OF EQUIPMENT IN ALL THE SECTORS

Standard product line	Industrial product line	Rugged product line
Outdoor public work environments	*Industrial environments, logistics and recycling*	*Mining environments, tunnel boring and special applications*



Example of configuration of a danger zone at the back of a forklift

BLAXTAIR®, the only equipment of the market that knows the difference between a pedestrian and another obstacle.

Functionalities :
- Prevention of vehicles / pedestrians collisions
- Accurate localization of obstacles and pedestrians alike
- No useless alarm thanks to specific pedestrian detection
- Return of the view of the danger zones (rear-view camera)

Operational advantages :
- Adapted to all types of machine
- Rate decrease of industrial accidents and near-accidents
- Stress reduction of vehicles' operators and of pedestrians alike
- Enhanced productivity
- Assistance with manoeuvers

BLAXTAIR VIEW®

BLAXTAIRview® is a **premium camera system** improving **safety** around industrial vehicles. Its **wide field of view** cameras display a color **high resolution** image. BLAXTAIRview® provides a good situational awareness even in very low illumination environment by switching automatically to **infrared** when necessary.
Compatible with Blaxtair® system, BLAXTAIRview® accepts up to 3 cameras and a Blaxtair® together. All videos are displayed on the same monitor.

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For more information about Blaxtair®:
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