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Warning
and notification systems
in the oil and gas industry

Why to build warning systems in the oil and gas industry

Oil, gas and petrochemical companies extract, store, transport, and process **highly flammable or explosive materials**. The related risks of the occurrence of emergencies, such as explosions, fires, electrocutions, accidents, chemical leakages and the like, require the **strict compliance with all safety measures and the building of modern warning and notification systems**.

Thanks to a unique and innovative solution for the monitoring, warning, and notification of the external and internal areas in an oil refinery, you will obtain a **reliable solution to improve the occupational and health safety** of your employees and the civilians living in the surroundings of the refinery.

Warning System
Midlle

Acoustic Coverage
Exterior / Interior

Invest in electronic sirens and a modern early warning system and significantly reduce the risk of injury or even the loss of human lives.

Protect your property against extensive material damage in emergencies.

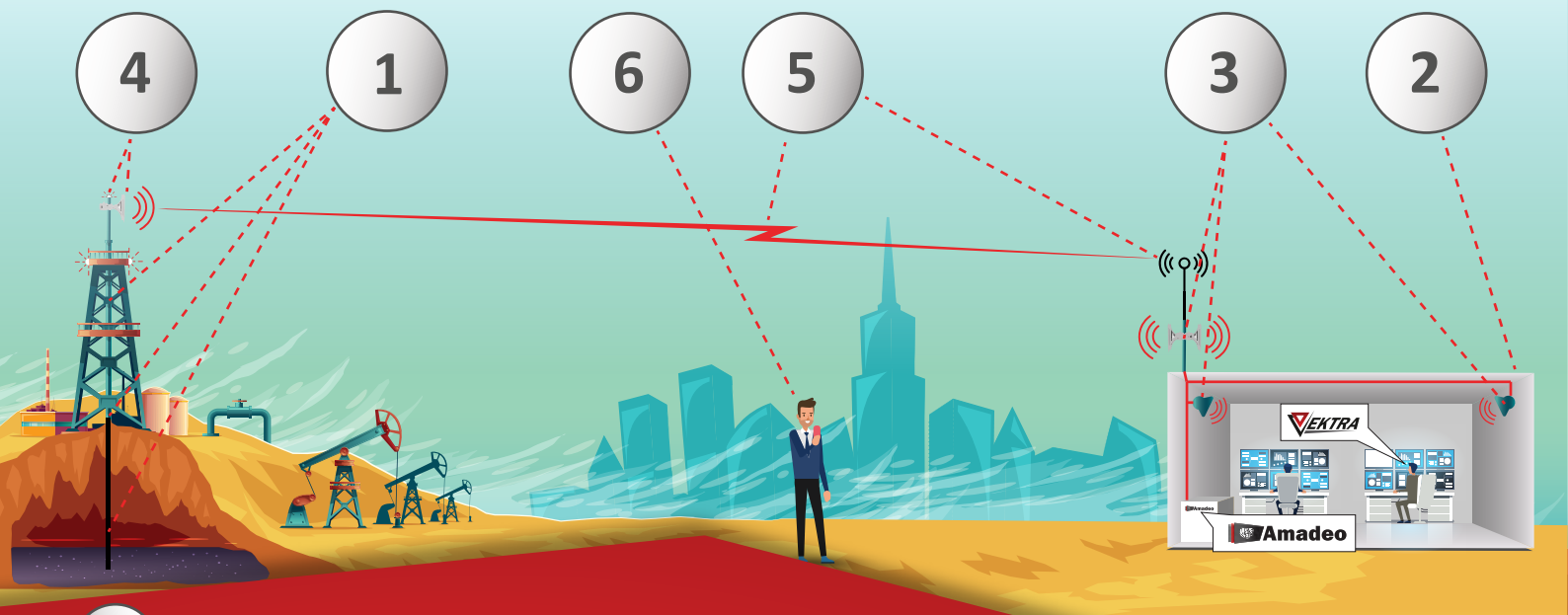
Description of the warning and notification solution for the oil and gas industry

The early warning solution suitable for an oil refinery is based on the analysis of typical hazards and their impacts. Following the analysis, either only the endangered operational **units within the refinery area**, such as oil rigs, drilling wells, or oil fields, or also **the surrounding areas** are covered with an acoustic and visual warning signal.

These systems must meet the following three main objectives, i.e. they must be able to:

- **Monitor** the occurrence of dangerous substances in the area and their concentration levels, as well as the meteorological conditions of the dispersal of such substances.
- **Notify** the employees in an industrial plant of technological processes that pose a higher risk of explosion or fire.
- **Inform** the employees and the civilians living in the surroundings of the refinery or oil well of an emergency or industrial accident, and of the relevant evacuation procedures.

Components of a warning system for the oil and gas industry



1 **The monitoring system and sensors** that

- Are connected to the Amadeo PA centre or directly to the Pavian electronic sirens
- Monitor the condition of manufacturing technologies and the concentration levels of hazardous substances
- Signal the exceeded maximum allowable values or the values outside the safe interval

2 **The control and notification centre** equipped with the Vektra® software applications (SCADA, Warning, and Notification) that:

- In case of an increased risk of explosion or fire
  - Automatically activates the **notification process** or notifications can be sent locally by an operator in the control centre.
- In case of an emergency or industrial accident
  - Automatically activates the **warning operations**, i.e. **acoustic and visual warning signals**
  - Automatically activates the **notification process**, i.e. informs the responsible persons/responders and the relevant institutions, and summons them urgently to their offices and rescue operations
- Makes and keeps records of all communications in the main control centre for future analyses
- Guarantees **tight security** thanks to **100% secure back-up technology**

visual and acoustic alerts

the pre-set response time of the operational personnel

the automa c sounding of electronic sirens and no fica on

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3 **The internal and external Amadeo PA system** whose units

- Are installed in the individual operational units to provide early warning in several separate building parts
- Work autonomously and respond locally to specific operational conditions
- Can work independently irrespective of any potential failure in the control centre or communications breakdown
- Are supplied together with 100 V sound distribution lines and loudspeakers for the sound transmission in the **internal premises** with common **background noise levels** or with loudspeakers for the sound transmission in **noisy halls** and **external operational units**
- Beacons can be used for visual signalisation to improve the effectiveness of acoustic warning i n noisy industrial units
- Are equipped with all autodiagnostic functions

4 **The Pavian electronic sirens** that:

- **Produce** a **high acoustic pressure** over a great distance
- **Ensure perfect intelligibility** of live voice reproduction
- **Demonstrate their high reliability** due to:
  - their full operability even in case of a power failure
  - their full functionality in extreme temperatures
  - advanced autodiagnostic functions
- **Allow using multiple power-supply methods**
- **Provide communications** with the control centre via **radio and line communications channels**

5 **Communications infrastructure** that

- Ensures communications between the control centre and the other elements of the warning system
- Allows the **connection** of the oil and gas early warning system to the superior **national early warning system**

6 **Responsible persons/Responders** to be notified that are

- Informed of the occurrence of an emergency situation by phone or text message
- Urgently summoned to their offices and rescue operations

Our oil and gas industrial warning solutions in the world

Early Warning System for the Kuwait Oil Company
Experience of the Installation of an Early Warning and Notification System for the Kuwait

http://www.electronic-sirens.com

Feel safe and sound with our reliable solution.

telegrafia®

Telegrafia a.s.
Lomená 7, 040 01 Košice

sales@telegrafia.sk

www.telegrafia.eu