

The “Blinking Protection Light”

2024 IPLOCA Health & Safety Award



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1. COMPANY PROFILE

Bonatti is an EPC **International General Contractor providing services to Oil & Gas and Power industry.**

Our activities range from **engineering**, to **construction** and **plants and pipelines operation & maintenance** of.

Bonatti' exceeds **70 years' experience** in challenging projects, **performed** under the **most critical environmental and logistical conditions** in **remote locations**, combining **innovative technologies and methodologies.**

Bonatti is "loop cycle service company", providing:

- **Engineering**
Our engineering capabilities are applied to a wide range of works and delivery methods: from EPC projects to maintenance services. Leveraging on field experience we inject top class engineering solutions into all activities.
- **Construction**
We review project processes since pre-construction phase. The effective integration of construction knowledge into planning activities, design and field operations allow us to achieve the overall project objectives in compliance with deadlines, accuracy and HS&E-CSR requirements. Our experience in construction is a wealth of knowledge developed over decades executing challenging projects all over the world. Due to our experience in all disciplines we commit full reliability performance to our clients: this is our main goal.
- **Operation & Maintenance**
Our multi-years' experience in global operation & maintenance services allows us to integrate client's operational capabilities. The goals are production efficiency and optimized overall project lifecycle costs.

Bonatti's operations are deployed in **4 Continents** with **10,000 people** working with us.

In each context Bonatti operates, the attention to local content maximisation and local communities is paramount.

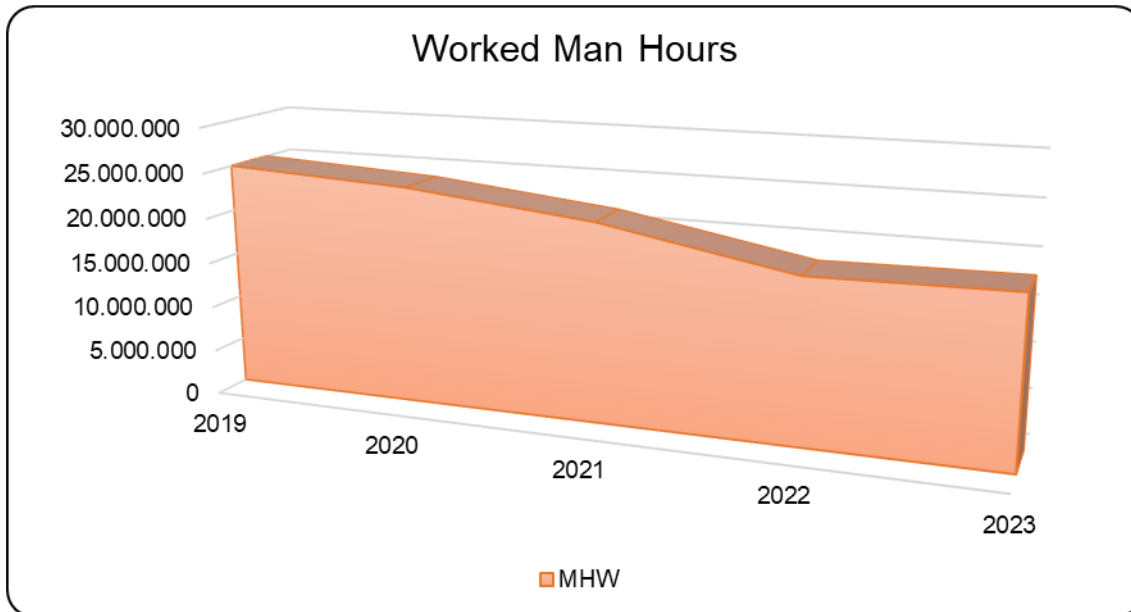


Figure – Worked Man-hours

2. FINDINGS

Man-Machine interference is one of the main criticalities of the Oil & Gas sector Construction sites.

In congested areas the use of excavators could be particular critical due to the possible interference with personnel and other equipment working around.

The communication between operators and workers in the work area when the equipment is running, is one of the most critical aspects of the interferences, even if the equipment is equipped with the most advanced tools available in the business (e.g. blind spot cameras, reverse alarm, etc...).

- This because the cameras allow the operator to monitor the surrounding;
- The reverse alarm alert the workers in case of reverse movement of the equipment;

But currently no solutions are available on the market to communicate effectively when is safe to move around a working heavy equipment.

This can cause incident which consequences may be severe.

3. SOLUTION

Bonatti has therefore designed and implemented an innovative initiative to guarantee a straightforward and effective visual communication, between the excavator operator and working personnel / equipment.

The innovative tool is equipped and integrated on the excavator with the most advanced tools already available for the equipment, such as blind spot cameras, reverse alarm:

The **Blinking Protection Light**, installed on the roof of an excavator.



Green light when equipment is in stand-by



Red light with running equipment



The initiative is a simple innovation that changes the communication between operator and surroundings, often identified as one of the Root Cause of unwanted events in the Business sector.

Recalling the overall familiar system of common traffic lights, the operator switches to green when the movement across the area are safe to workers. The device is automatically switched to red, when the machine is running and the line of fire very possible.

The automatic red light goes off, activated through the dead-man tool pre-installed on the equipment.

This responds to:

1. Communication issue:

the use of familiar traffic lights indicators allows a clear and effective communication, that is known and worldwide valid “code”.

The device allows the operator to directly communicate to the working equipment/personnel when is safe to move.

2. Easy installation directly on site:

it is possible to install the **Blinking Protection Light** on every type and model of excavator, with no issue related to compatibility, simply connecting the Bonatti tool to the dead-man bar.



The **Blinking Protection Light** while equipment is working

4. IMPLEMENTATION

Blinking Protection Light has been installed on excavators in Mexico Pipeline project site.

The innovative tool immediately aroused interest from workers and Heavy Equipment operators, as it ensures a simple and effective method of communication, to which everyone is accustomed since childhood.

5. ACHIEVEMENT

The feedback collected by the workforce and the project management on the initiative, is encouraging the Company to analyse the installation of **Blinking Protection Light** tool also on different Projects.

It ensures a clear communication which prevents misunderstanding between running equipment and surrounding personnel.

Guaranteeing an easy installation on the excavator, directly on site.

Monitoring the main HSE KPI in the last trimester in Mexico Project where the tool was installed, it is possible to identify that no unwanted event occurred on sites related to Man-machine interference.

6. LONG TERM PLANNING

Bonatti is analysing and testing to install the **Blinking Protection Light** on different type of equipment (e.g. Side Boom), to improve the communication on each busy working area where the risk of man-machine interference is present.