Telediagnostics, interconnection and satellite tracking

ESACONNECT is a portal platform (www.esaconnect.net).
It was created by **ESAGON** to enable its customers, through a hardware device such as **TELMOD** (namely a modem), which ensures a remote connection to automation systems with CAN-Bus interface installed on the machines manufactured by customers, to manage these 3 functions:
- **telediagnostics**;
- **interconnection**;
- **satellite tracking**.

It allows to perform on the machines:
- **corrective maintenance** (intervention following the reporting of a machine malfunction or following a more serious event with the consequent stopping of the machine);
- **preventive maintenance** (identification of the critical components of a machine and then, according to a schedule, intervention to replace parts or components, regardless of their conditions);
- **predictive maintenance** (identification of parameters that are measured and extrapolated, using appropriate mathematical models, in order to identify the residual time before the fault).

With **predictive maintenance** it is possible to identify early incipient anomalies, allowing a better management of the machine's operation, avoiding heavy economic repercussions. The analysis of the state of health of the machine allows not only to anticipate the occurrence of a failure, but also to effectively direct the maintenance resources where the machine requires it.

Through the **ESACONNECT** platform it is possible to access the **Internet of Things (IoT)** universe.
The focus is duplex: reduce maintenance costs and increase machine productivity.
Registered users access the portal through **userid and password**, via **pc, tablet or smartphone.**
Interconnection allows to receive and analyze data, as well as to transmit files, information and instructions.

Article 1 - paragraph 9 of the italian **Law December 11th 2016 no. 232**, to support the **technological investments** related to the **"Industry 4.0" program** referred to in Annex A of the law, provides for a **"hyper-depreciation"** equal to **250% of the cost incurred for the purchase of high-tech goods**. These must be goods whose **operation** is controlled **by computerized systems and/or managed by appropriate sensors and drives**.

Attachment A contains the **list of goods** that can benefit from **"hyper-depreciation**" and in **point 11** there are: "**driving machines and operating machines** (including, for example, agricultural machinery, such as all **tractors** and **agricultural machines** – **carried, towed and self-propelled** - which allow precision working in the field thanks to the use of electronics, sensors and computerized management of control logics ...), **tools and devices for loading and unloading, handling, weighing and automatic sorting parts (**namely **forklifts, lifters, overhead cranes, mobile cranes, gantry cranes), automated lifting and handling devices ... ".**

To **benefit** from the tax relief of **"hyper-depreciation"**, the **machines** must have, among others, **also these characteristics**:
- **control by means of Cnc and/or Plc**;
- **interconnection with the factory IT systems**;
- **simple and intuitive interface between man and machine**;
- **remote maintenance and/or telediagnosis systems and/or remote control**;
- **continuous monitoring of working conditions and process parameters through appropriate sensor sets and adaptability to process drifts.**

In the case of **driving machines or operating machines** which work **in an external environment** (typically **machines used in agriculture and in construction**), the **feature** of the **interconnection to the factory IT systems** is fulfilled if the machines are able to receive data related to the task to be performed by a remote central system located in the factory environment; indications related to planning, scheduling or production progress control.

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