Risk Assessment of AGV Systems

Description
Nowadays, AGVs facilitate logistics in factories because they are reprogrammable and multifunctional. The AGV itself is CE marked by the manufacturer, but the manufacturer's CE marking cannot include its route through the factory, what it transports, if it enters or leaves other machines or tasks that operators might have to perform on the AGVs' trolleys.

An AGV or a set of AGVs forming a transport system must bear CE Marking, according to the Machinery Directive, as if it were a set of machines and a risk assessment must be carried out of the entire route, of the trolleys, of the product being transported, of the possible tasks of the trolley operators, etc.

Manufacturers of machines that AGVs enter or leave must carry out the risk assessment of these parts in order to ensure they are safe and add them to the machine's CE Marking.

Specifications
Our risk assessment is based upon the following standards or specifications:

- **ISO/DIS 3691-4**: Industrial trucks — Safety requirements and verification — Part 4: Driverless industrial trucks and their systems.

Examples
Some of the documents used in the biomechanical study are shown below:

![Example of AGV logistical layout with manual work areas](image)

![Example of shelving safety layout with AGV](image)

![Example of shelving carried by an AGV](image)

Documentation
The documentation can be delivered:
- In PDF digital format.
- In Spanish. Other languages on demand.