

CASE STUDY

DOSING COMPONENTS FOR A CONCRETE PLANT



CHALLENGE

- ▶ A worldwide manufacturer of cement and ready-mix concrete for applications ranging from regular to highly technical usage.
- ▶ To provide a weighing solution dedicated to the dosing concrete components with a high accuracy of precision over time, in a harsh environment.

CONSTRAINTS

- ▶ The weighing instruments must meet and remain within the tolerance range over time, so as to insure the regularity of the quality of the concrete
- ▶ The reliability of the weighing solution must meet highly demanding criteria of robustness due to the extremely high cost of immobilization of the plant. Being core of the manufacturing process, the weighing system is critical to operations.
- ▶ Providing to the PLC the weighing data from various sources through one unique input port.



SOLUTION

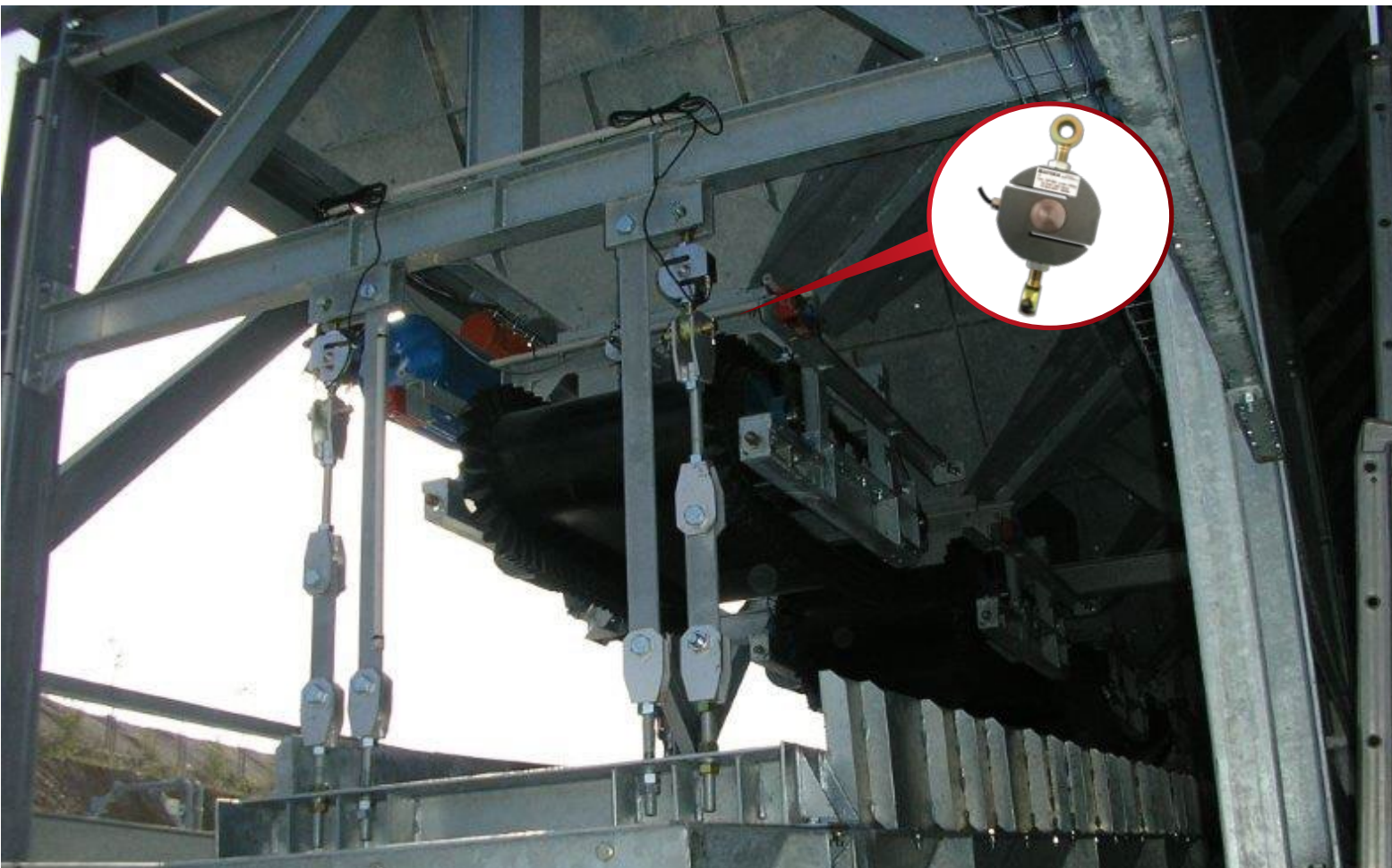


ADDED VALUE

- ▶ Design of an architecture based on:
 - One multi-channel indicator, which acquires data from each tank of material;
 - For each tank, a CANDY A/D transmitter which connects to each load-cell.
- ▶ Extremely high velocity of weight data transmission to the PLCs. The load-cell signals are processed in parallel by each Candy converter. The conversion from analogic to numeric data to the indicator provides high reliability of transmission, even in case of electrical engines nearby, considering the high electro-magnetic immunity characteristics.
- ▶ Simplification of the on-site cabling using serial connection between the various weighing indicators. This choice generates savings in the installation cost and reduces the commissioning on site.
- ▶ Rationalization of the monitoring panel providing weight information coming from each tank on one display.



CONTROL ROOM



LOAD CELL



TANK



WEIGHT TRANSMITTER (Candy)