



CASE STUDY | AUTOMOTIVE INDUSTRY

## Compact plant design for mixing applications

Cost reduction of 30 to 40 % thanks to compact and modern wiring concept



### **Our customer:**

**A manufacturer of mixing systems for battery production**

The South Korean company offers comprehensive solutions ranging from the design and installation of mixing rooms to integration into existing production systems. The company is known for its high-quality and efficient mixing systems that are used in the production of batteries, in particular lithium-ion batteries.

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### The challenge:

The challenge for our customers is to be able to offer the mixing systems for battery production in a competitive and flexible way. This affects all steps from project planning to commissioning and the start of production. The contractor is currently located in the USA, which is why commissioning is of great importance. The main costs include hardware such as sensors, remote I/O and cables as well as wiring costs.

### The solution – why ifm?

To achieve savings in the area of automation when designing new system concepts, the customer relies on the use of a complete IO-Link architecture. It consists of IO-Link master modules (AL1322) and converters for analogue sensors (DP2200) so that analogue sensors without

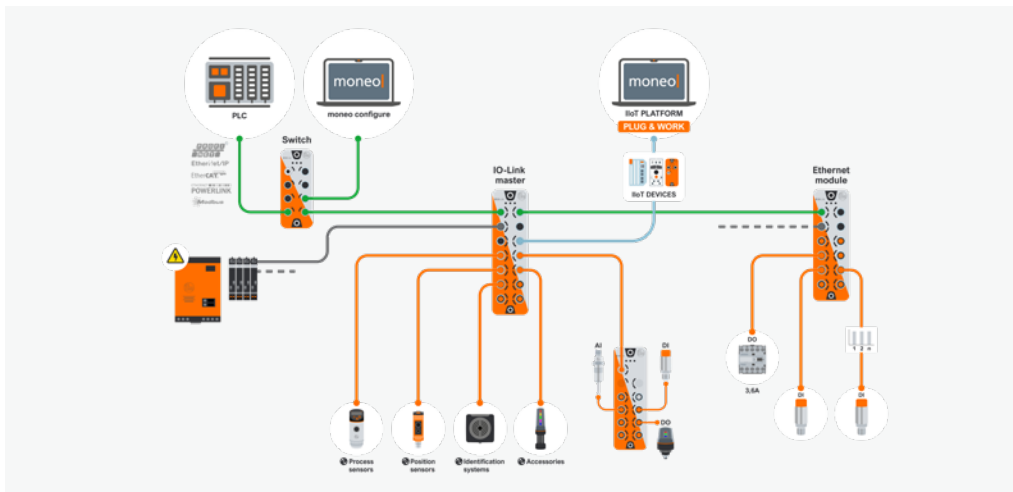
integrated IO-Link functionality can also be integrated into the plant concept. The cost savings compared to conventional plant design planning – i.e. without IO-Link – are 40% for the sensors and 30% for the wiring. The savings result from various advantages offered by IO-Link. With an IO-Link connection, individual sensors can detect and transmit several process values, for example pressure and temperature. Using IO-Link and fitting connection technology from ifm considerably reduces the number of cables and thus the wiring costs. PLC remote I/O and mass cables are replaced by IO-Link and jumper cables, for example. The following sensors from ifm are used in the plants: Temperature sensors (TA2135) and pressure sensors (PN2594), hydrostatic sensors (PI1709 and PI2204) for continuous level detec-

tion, radar sensors (LW2720) that detect the level without contact or by means of guided microwave via a probe (LR2050).



### Results:

- 40 % cost reduction for sensor technology
- 30 % cost reduction for wiring technology and commissioning
- Reduction of commissioning time
- Compact and modern plant design
- Multiple process values per sensor



Cost reduction



Multiple process values per sensor



Reduced wiring complexity



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