

QualityLine AI technology to prevent fire in electric vehicles

Vehicle fires due to battery defects can be avoided by solutions for battery management Analytics and Diagnostics.

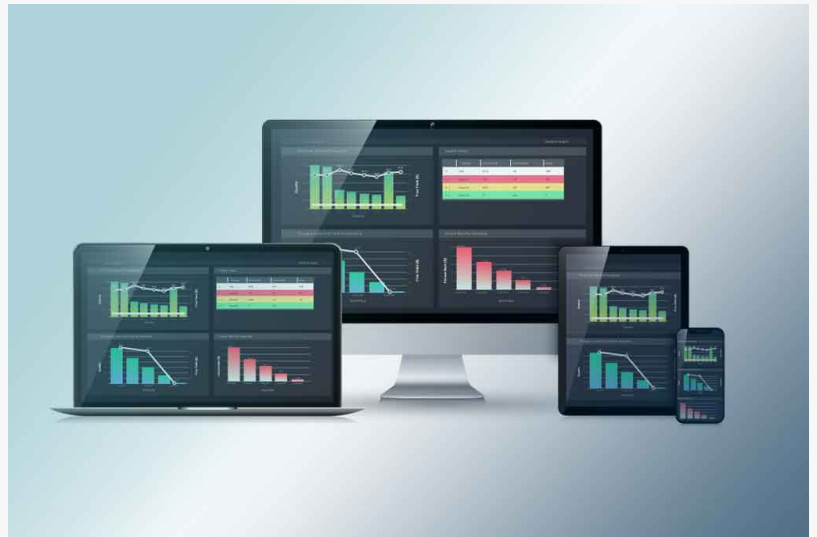
LANSING, MICHIGAN, USA, September 9, 2021 /EINPresswire.com/ -- [Over the last 12 months, three high-profile recalls have affected about 132,500](#) electric vehicles at a combined cost of \$2.2 billion — General Motors, Hyundai Motor and Ford Motor — Tesla has avoided large-scale recalls for its EVs because of battery problems but the American National Highway Traffic Safety Administration opened an investigation in October 2019 into Tesla's high-voltage batteries. The company recently agreed to pay \$1.5 million to settle the lawsuit.

Batteries generate massive amounts of data during production, testing, and in-vehicle use. Currently, Battery Management Systems (BMS) capture some data (such as current state of charge) but the information is static and does not provide insight into the quality of the battery, making it difficult to generate meaningful data.

[QualityLine](#) AI technology automatically manages data from Batteries manufacturing process to prevent malfunctions. The technology delivers end-to-end control of the manufacturing process by analysing automated data integration of any manufacturing data, including inspection data from battery production. Manufacturing teams can then cross correlate between different data



Ai Manufacturing Analytics to improve efficiency and yields



Easy data integration to manufacturing industries

sources for a quick and accurate root cause analysis and prevention of electric cars.

Hagen Berger, Head of battery inspection department at Viscom AG, has been testing QualityLine solution for the last months and answers some questions on how to improve battery performance and avoid [fire](#) incidents by Qualityline AI technology.

QualityLine will be part of Wiscom's booth at next week's event The battery show in Novi, Michigan. The show is scheduled for September 14-16.



fire in electric vehicles

1- What is the connection between Viscom, QualityLine and the battery business?

Viscom is an SMT testing business - and I know what challenges there are and what data analytics can contribute to process learning. Since I'm in the field of battery inspection and with all the massive investments that are put today to gigafactories, I know that process learning is very important to the battery business in those days. So I came across the QualityLine solution and so far we made good steps testing the solution to this vertical. We're already doing the second proof of concept with our machines that we would like to use for our customers. There is still a lot to do for sure, but we can say that we're getting to a great solution for the battery business.

2-What about burning cars? How do you think QualityLine can avoid those incidents?

We heard a lot about burning cars. The hottest topic now is the fires of Chevy Bolt electric vehicles. Apparently these fires came from an issue of misalignment robot at the production which most likely caused some issues to the stack of battery cells. Performing an x-ray to find out and realize what is going on along with QualityLine's Solution, we can look, identify, and understand what are the failures and how we can improve the value of production machinery.

Our ultimate goal is to understand the misalignment, changes, and programming of each product, station and production machinery in order to identify where the problem originates at. With that, being able to understand the manufacturing process of battery cells, we are reaching better quality and avoiding life threatening defects.

3- What is the biggest value delivered by the QualityLine solution to the automotive battery industry?

QualityLine solution provides a deep understanding of the battery cell production line through data correlation and diagnostics to give you an understanding of your manufacturing machinery and a higher product quality. You get full transparency and end-to-end control of your manufacturer.

In the automotive industry, you cannot afford battery defects. With the right tools you can increase your ability to identify and prevent such battery defects before they hit the road. QualityLine delivers enormous flexibility for changes, the solution is easy and flexible and the automotive market was looking for such a solution for years.

For example, the staff can search for cells, sorting good and bad cells, and when there is something wrong with the production, they can start sorting more and more bad cells but they don't know where the bad cells are coming from.

This is something QualityLine solution is looking at, finding the source to provide a more stable production and in case something happens you can immediately see where the failures are coming from. That is the biggest contribution to the automotive market

4 - How can you use QualityLine to see failures immediately? What benefits can we derive from that?

By data monitoring you can get immediate information about your process. At the very short initial phase you can find what log files tell, which you can evaluate and understand without any extra effort. However log files are stored in every machinery for a short period of time. With QualityLine's solution, you can get an immediate picture of what is going on.

In addition, Qualityline's solution uses correlations for prediction of production quality and when production machinery maintenance is needed. As there is a higher battery demand than can be produced, not stopping production every other week due to maintenance of different machinery and being able to plan is a crucial benefit.

5- Can QualityLine reduce the battery production cycle time?

For battery production we need more cells everyday, faster, and at the same time a very high quality. In order to reduce the risks of battery fires and any other defects or failures, we need to quickly understand which stations in the manufacturing line are causing faulty units.

The cycle time is very important, if you look at the SMT process, every board that is produced takes around 30 sec up to a minute. At the battery we're talking about a cycle time, depending on cell type and size, of 3 to 10 seconds per battery cell (pouch) but for a cylindrical battery the cycle time is lower. You produce 180 batteries per minute and even more, so there is a need to get real-time insights from your production.

Using QualityLine's AI technology you can get immediate insights from x-ray data when something is wrong either from the quality of

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