

RobotStudio™ Case Study: Ryobi Ltd



Ryusuke Izawa learned how to use RobotStudio all by himself in one month. Offline programming has changed his work considerably.

Ryobi, a world leading die casting manufacturer situated at the foot of Mount Fuji in the Japanese city of Shizuoka, provides the automotive industry with lightweight, durable, and highly recyclable aluminum die castings. Among their customers are vehicle producers like JATCO, Toyota, Honda, Subaru, Suzuki and Yamaha.

Precision is vital

With automobiles and motorcycles as the main focus, Ryobi creates and produces aluminium die cast parts for about one hundred different types of vehicles. Ryobi currently has twenty-five ABB robots in operation in the Shizuoka factory. Within the realm of die casting, they have introduced a variety of robot systems. Among these systems, the cleaning system,

the polishing line and the insert line present most difficulties. The insert line deals with small items being placed accurately within a larger cage-like core of machinery. Whenever these applications are used it is vital that the repetition and tracking systems therein are precise.

New equipment = Problems

“We decided to invest in RobotStudio because whenever we brought in new equipment and started to set it up we ran into different problems. This caused long delays as we had to stop the production to be able to fix the problems. When we were teaching programming or any other aspect online, we had to cease production or even cease development, stop the machines, and then restart them to do all the relevant checks. This included thinking about where the problems had occurred, investigating the issues, and then talking through the key points to succeed. This took a considerable amount of time”, says Ryusuke Izawa, Group Leader at the Engineering Section.



Hiroshi Urabe, Plant Manager at the Ryobi Shizuoka plant, is very satisfied with the latest production of transmission cases to JATCO.

Ryusuke Izawa continues: "With RobotStudio we can examine and inspect items well in advance. We are now able to install proper equipment from the beginning and avoid complications and operation failures. RobotStudio can pinpoint any potential problem easily and ahead of time, which considerably reduce delays and eliminates production stoppages. This drastically reduces our costs."

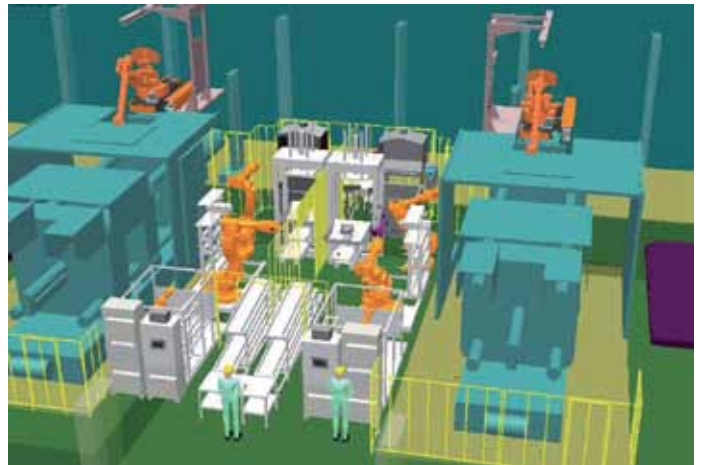
New engine block for Honda

Honda turned to Ryobi for the mass production of a new engine block for their motorcycles. The development period for this project was extremely short and they also dealt with a difficult product that had to be both mechanically sound- and technically perfect in terms of die casting. "With RobotStudio we were able to look into what the production machinery that hadn't even been made yet would eventually look like. We used 3D drawings to thoroughly examine the design. Even at this point no one could make a sure judgment as to whether we could mass-produce these items or not. But RobotStudio taught us what we as humans couldn't know - that such mass production was possible. The production of the engine blocks is running just fine at this very moment. This project wouldn't have been possible without RobotStudio and we wouldn't have gained Honda's trust for this project without being able to show the solution in RobotStudio", says Ryusuke Izawa.

Attempt tricky design

With the realistic graphics in RobotStudio, Ryobi can create a complete image so that all of the project members can share and strive for the same solution.

Hiroshi Urabe, Plant Manager at Ryobi Shizuoka plant, is very satisfied with the latest system programmed in RobotStudio. "We have managed to build up a conveyor tracking solution for the deburring of transmission cases for JATCO. Thanks to RobotStudio we can manage this unique solution. You can't find anything similar in the world", says Hiroshi Urabe. Ryusuke Izawa agrees: "Up until now we have had to abandon intricate designs in which there was a danger of complications occurring in very narrow spaces or danger of operation malfunctions. With RobotStudio we are now able to challenge ourselves and attempt the tricky designs of the very narrow spaces that we didn't know were possible before."



A unique conveyor tracking solution for production of transmission cases for JATCO. Programmed offline in RobotStudio.

Smooth operations

RobotStudio greatly reduces programming time at the Ryobi Shizuoka plant. With offline programming they only make the final adjustments online. It is of great benefit as they are able to minimize the time that is actually spent on site. In addition, they can avoid unforeseen complications or robot malfunctions during the actual teaching exercises. Operations have greatly improved since the implementation of the software.

Spray system next

"For the future we are looking into introduction of RobotStudio to a variety of facilities. In this way we can successfully implement flawless machinery. In particular, we are thinking of fully integrating offline programming in our spray system," concludes Ryusuke Izawa.

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