**Case Study - 2**

**A Vision System for a Critical Dispenser**

How ENWPS helped a Foundry with a Vision Monitoring System for correct dispensing of a crucial additive.

**Client Brief**

The customer is a leading manufacturer of Automotive Braking Systems and Ferrous Castings in India.

**The Context**

Addition of Inoculants (FeSi based alloys) into the liquid iron during pouring to improve the metallurgical quality of the cast iron is a routine task in a foundry. Correct dispensing of inoculation material into the pouring system is the tricky part in this process. The customer facility has the equipment for dispensing inoculation; but what they do not have is the equipment, which will ensure that the correct amount of inoculation is being dispensed.

If they do not monitor this inoculation process, not only the metallurgical quality of the casting will get affected, but also there will be a lot of wastage of the inoculant.

**Key Challenges**

* Ensure correct flow of Inoculation
* Ensure correct alignment of Inoculation tube/pipe
* Vision camera location and positioning
* Vision camera protection from heat and dust, and
* Choice of correct filters for the Vision Camera.

**The Solution**

The Vision Camera is the heart of any Vision Monitoring System. To monitor the inoculant flow, we chose a Vision Camera, which will capture and process images at a very high speed, operate efficiently in the very high temperature environment and is easy to program.

The critical part was the camera installation on the platform of the pouring system equipment. The Pouring System pours the molten metal into the moulds. There was limitation on space for the camera installation due to cables lying on the platform and the heat produced by the molten metal. We chose the right location and positioned the camera in such a way that it will give the best results in monitoring the inoculant flow.

We provided a monitoring system that can be applied on every existing inoculation process to check the correct feeding and distribution of the inoculant powder into the iron stream. Our monitoring software application is featured with real images, numeric data and graphs with the option of data logging.

**The Result**

The customer can now ensure the correct amount of inoculant feed into the iron stream. This improved the quality of the casting products and the process can now easily track the item in which the inoculant is not added properly.