

# Billet Transfer

## Case Study: OneSteel Billet Transfer

Client: OneSteel, Bar Mill

### Project Summary

OneSteel engaged Advitech to design new equipment to automate billet transfer and reduce the impact caused by billets sliding onto the charging conveyor. An automated weighing system was incorporated into the design.

The existing reject operation was extremely harsh, with billets falling a considerable distance. The billet transfer system needed to be capable of transferring all sized billets to the charging conveyor, or rejecting selected billets, without impact loads causing excessive wear and tear.

### Design Features

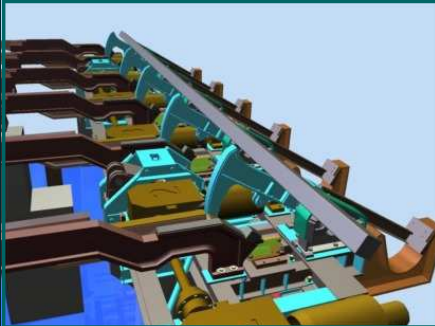
- Management of varying sized and bent billets without the need to change equipment set up.
- Cycle time requirements met to meet mill maximum throughput rates.
- Guaranteed repeatability so that automation would be successful.
- Retrofit of equipment into the available envelope between the unscrambler bed and charge conveyor.
- Short timeframe to complete detail design, fabrication and installation to meet the next major mill shutdown.
- Transfer arms to act as stops for the unscrambler bed whilst also lowering billets onto the roller conveyor in a controlled manner.
- Sensors allowing control of the transfer and weighing operations without manual intervention.

### Project Outcomes

The collaboration between Advitech and OneSteel was a key factor in the project's success, resulting in the project being delivered on time and within budget. A fast track approach was adopted for design, where drawings were completed on a priority basis to meet concurrent fabrication and installation programs. Additionally, the 3D design prepared by Advitech allowed everyone to clearly visualise the construction and operation.

The design achieved key objectives of automatic weighing and transfer of billets while preventing impact on the conveyor rollers caused by larger billets. The system ran with minimal manual intervention and the mill met throughputs. The OneSteel Bar Mill Engineer said, "We now have a transfer and weighing system that works beautifully."

With the closure of the Newcastle Bar Mill, OneSteel was considering how this upgraded equipment might be re-deployed within the business.



3D image of Advitech's design for the billet transfer system.



Photo of the final system in operation

## Advitech Pty Limited

### Head Office

1 Elizabeth Street, Tighes Hill  
(Newcastle) NSW 2297

PO Box 207  
Mayfield NSW 2304

Telephone: 02 4961 6544

### Sydney Office

Suite 17, Level 6, 91 Phillip St  
Parramatta NSW 2150

Telephone: 0438 832 403

### Email

[mail@advitech.com.au](mailto:mail@advitech.com.au)

### Website

[www.advitech.com.au](http://www.advitech.com.au)