



# THE 100% CIRCULAR RAIL IN A CLOSED LOOP

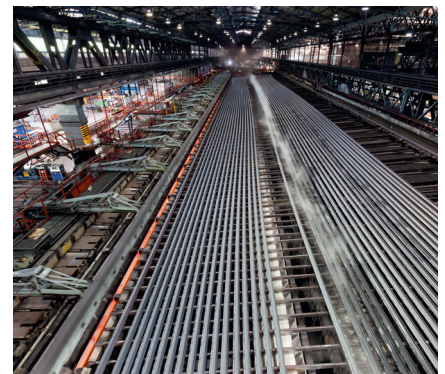
## Producing a rail ready-to-install based on 100% used rail scrap

### Reducing CO<sub>2</sub> by using rail scrap

To reduce CO<sub>2</sub> emissions, rail steel producers in Europe are switching to electric arc furnaces (EAF), which re-melt scrap to cast blooms for new rails. Used rails are a preferred source of scrap due to the purity of the steel. However, in addition to rail scrap, standard EAF routes also require other “lighter” scrap or primary materials, such as hot briquetted iron (HBI), up to 40% to complete the process.

### The Show Case - 100% Closed Loop

In a unique project, we used our TechMet electric induction furnace to produce a bloom for subsequent rail production using 100%\* rail scrap from the track.



### Coped Challenges in the Project

- » Collection of used rails from the end customer in the Netherlands
- » Sorting by rail steel grade to ensure as homogeneous scrap as possible
- » Cutting the rails to the suitable length
- » Transport by truck established, but rail transport is also possible
- » Melting 100% rail scrap in the TechMet and casting to a bloom
- » Rolling into rails
- » Passed full laboratory and qualification testing to EN13674-1

### Outlook

The rail is returned by train to the customer in the Netherlands for a supervised track installation. Sustainable and recycled, our path to a climate neutral and circular rail infrastructure.

\*Only a few alloying elements need to be added due to the process.