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## TRANSinter –Sintering process role in the (partial) transition to the Direct Reduction Route

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To drastically reduce CO<sub>2</sub> emissions, European steelmakers are considering a transition from the Blast Furnace (BF) route to the direct reduction (DR) route. TRANSinter investigates solutions to support the first step in the transition step based on the valorization of existing sinter plants.

Following solutions are being investigated :

- Adapted sinter for use in DR shafts as an alternative to DR grade pellets and a way to valorize by-products onsite after the transition.
- Increased recycling rates to keep valorizing by-products (including from the DR route) in spite of the decreasing number of sinter strands in operation.
- Cleaner sintering processes including
  - bio-coals made from low quality residues (such as sewage sludge)
  - an original waste gas recirculation layout
  - process actions
  - end-of-pipe treatments that are yet to be tested at sinter strands.

These solutions are being investigated using a wide range tools ranging from lab trials and modelling work to pilot scale trials, which led to early results including assessment of:

- the maximum amount of standard sinter that can be fed to a DR shaft and possible adaptations to increase it
- the impact of by-products mixes for different future scenarios on sintering process (including environmental performance)
- a wide range of emission reduction solutions including thermo-chemical conversion of low-value residues into solid fuel.

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