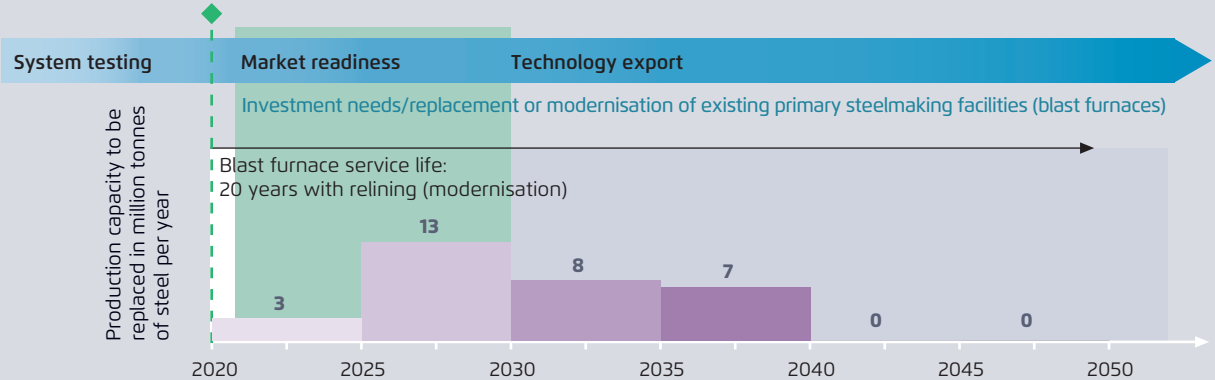


Status quo

Natural gas DRI: TRL 8-9 earliest possible large-scale application (TRL 9), initial entry into the direct reduction route with natural gas possible
H₂-DRI: TRL 5-6



Reinvestment requirements

The reinvestment requirements in primary steel production up to 2030 include blast furnaces with an annual production of approx. 16 million tons of pig iron (approx. 52 % of total capacity). It was assumed that a significant reinvestment will be due for blast furnaces 20 years after their last relining.

Technology development

With optimal technology development, the earliest possible commercial use (TRL 9) of the technology is 2025. Starting with natural gas instead of hydrogen already enables significant CO₂ reductions (approx. 66 %). An increasing proportion of hydrogen can then be added without significant retrofitting of the plants.