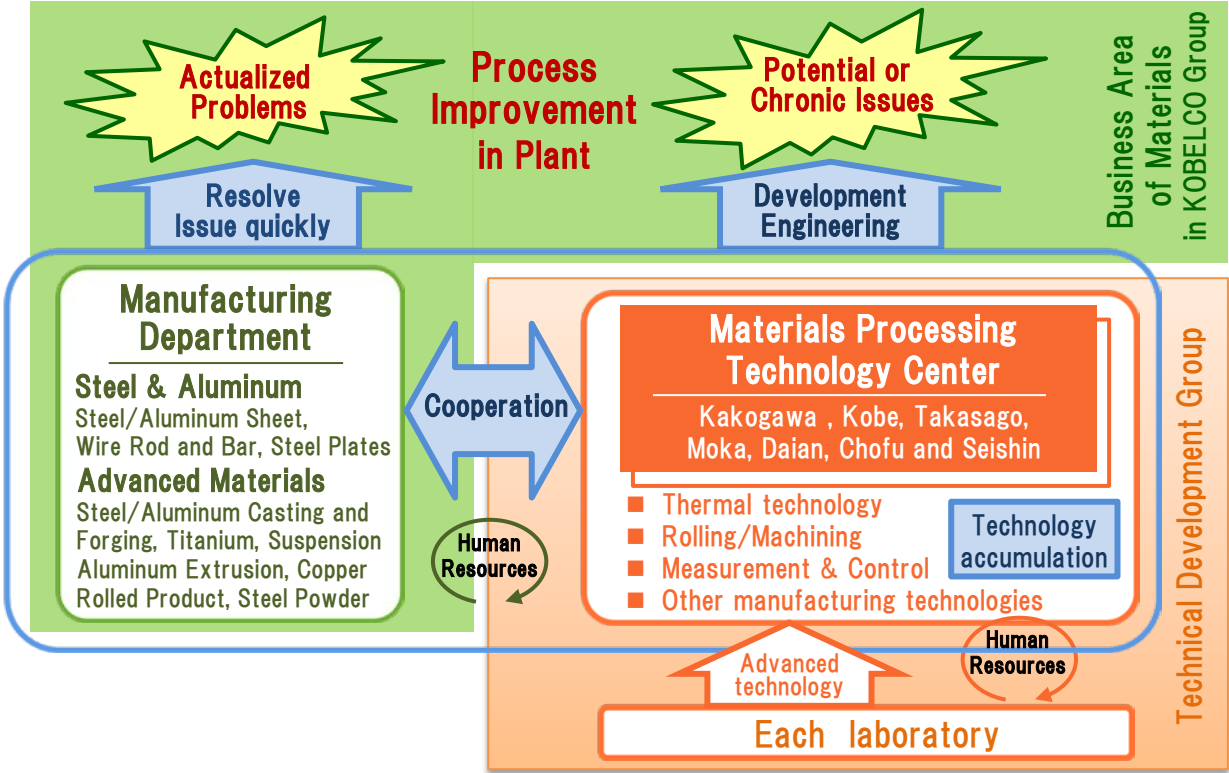


# Materials Processing Technology Center

In order to solve the problems that require complex engineering technologies of the production site, we have integrated the knowledge and specialized technologies in KOBELCO Group and we contribute to the rapid solution of process problems. Furthermore, our goal is to identify potential or chronic issues through on-site efforts. We will also enhance process technologies, accumulate them, and promote human resource development.



## Energy Saving of Combustion Equipment

Based on our technologies of high efficient/stable/uniform heating, combustion and cooling, we contribute to product quality improvement, energy saving and CO<sub>2</sub> reduction by heat treatment.

▼Steelmaking: Saving energy with a ladle heat-up burner

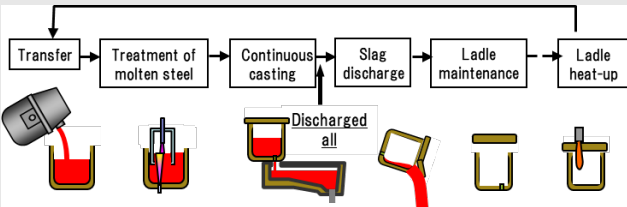


Fig. Ladle operation

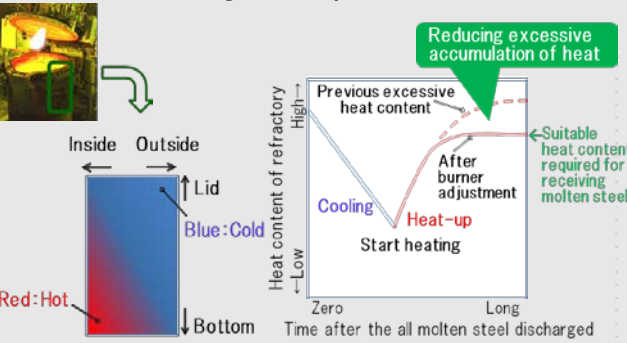


Fig. Simulation of heat distribution for refractory

Fig. Thermal simulation of refractory for ladle heat-up

**Energy saving by combustion adjustment**

## Yield Improvement of Steel Cold Rolling Process

Based on our technology of rolling/machining, we contribute to the improvement of product dimensional accuracy, stable production and yield improvement.

▼Steel sheet: Improving the accuracy of thickness setting at the head end of cold rolling

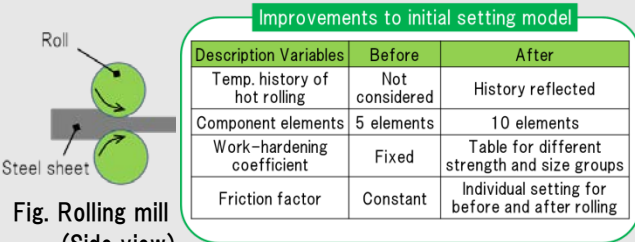


Fig. Rolling mill (Side view)

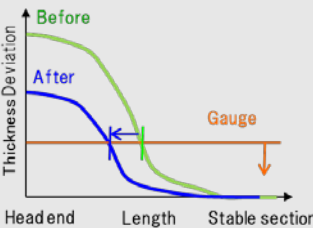


Fig. Behavior of thickness at the head end

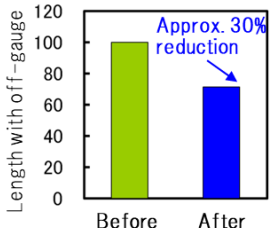


Fig. Length with off-gauge (100 for the length before improvement)

**Reducing the thickness deviation at the head end by improving the initial setting model**