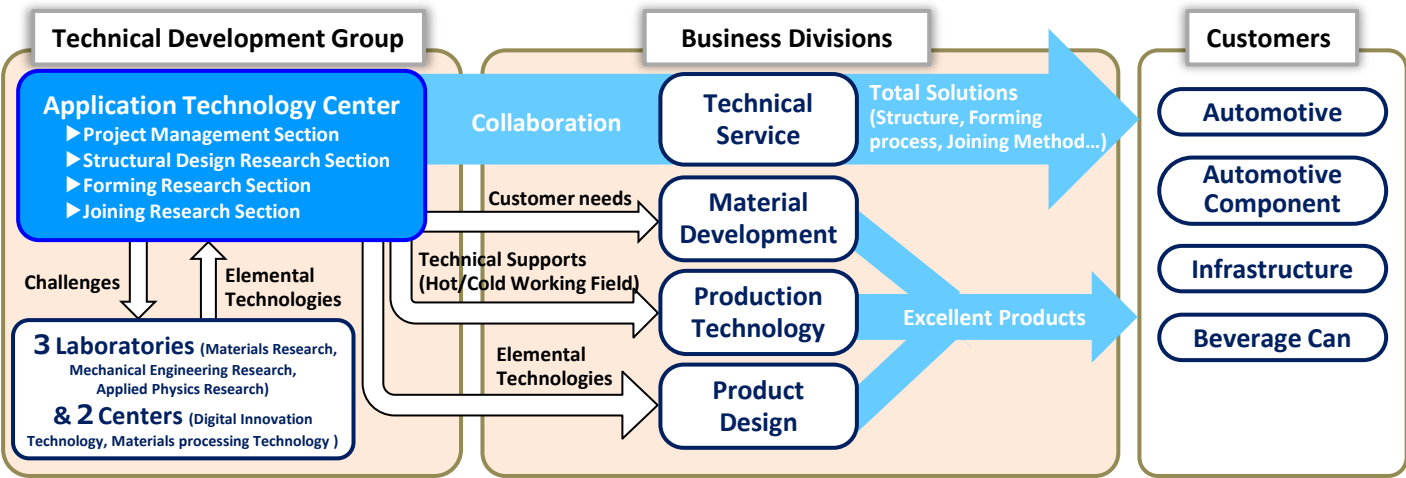


Application Technology Center

We are working to develop solutions to technical challenges faced by customers of the KOBELCO Group (especially in the materials business divisions). With the mission of "creating new solutions by connecting people and technologies around the world" we collaborate with other research centers, business divisions, and affiliated companies to promote daily technological development with the aim of creating solutions that are unique to the KOBELCO Group and chosen by our customers.



Solutions for Structural Design

As a multi-material supplier, we provide various solutions for structural design and evaluation technologies that lead to low cost, lighter components.

<Evaluation Technologies>
Crash Test Facility

Full Car Crash Simulation

<Structural Design Technologies>
Example of Designing Multi-material Side Door Structure

Solutions for Carbon Neutrality

In addition to cost and weight reduction, we offer optimal solutions that consider CO₂ emissions from production to End-Of-Life.

Case Study of Life Cycle Assessment(LCA) for 3 Type Car Side Doors

Category	All Steel (38.4kg)	All Aluminum (23.3kg)	Steel+Aluminum (24.4kg)
Material Production	91	289	208
Machining & Joining	27	18	21
Battery manufacturing	181	103	109
Use phase (100,000 km)	254	163	170
Use phase (+100,000 km)	254	163	170
Total GHG Emissions	607	589	528

Solutions for Forming Process

We provide optimal solutions for forming processes that meet the quality requirements of components made of steel and aluminum sheets.

<Forming Process Design>

<Forming Simulation >
Example of Springback Evaluation

<Evaluation Technologies>
Example of measurement of maximum principal strain distribution

Solutions for Joining

We propose optimal solutions using many of our joining technologies that can be applied to similar and dissimilar materials.

<Joining Technologies for similar materials>
RSW, MAG, MIG, LASER, FSW

<Joining Technologies for dissimilar materials>
EASW, DASW, ImpACT, FDS, Punch Rivet, Aluminum Alloys (5xxx, 6xxx, 7xxx, etc.), High Tensile Strength Steels (AHSS, UHSS, PHS, etc.), Mechanical Clinch, High Tensile Strength Steels (AHSS, UHSS, PHS, etc.), SPR, Blind Rivet, Bolt & Nut, REW