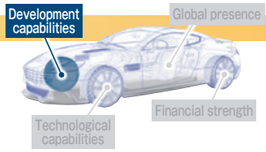


Development capabilities: aiming to become a vehicle body system supplier

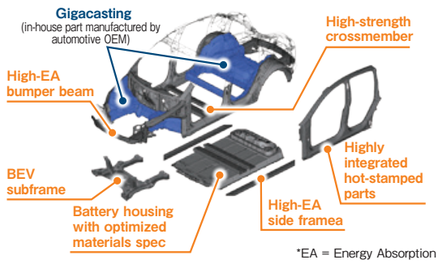
Intellectual capital strategy

By concentrating our knowledge and technological capabilities as a vehicle body manufacturer, we will promote the development of new products to help resolve social issues

By applying the whole-vehicle body analysis technology it has refined over the years to analyze design concepts in customer communications and in general information such as patents, G-TEKT is working to understand the approach being taken by automotive OEMs, and proposing the use of lightweight, highly rigid products and structures that are informed by a deep familiarity with the basic requirements of the vehicle.

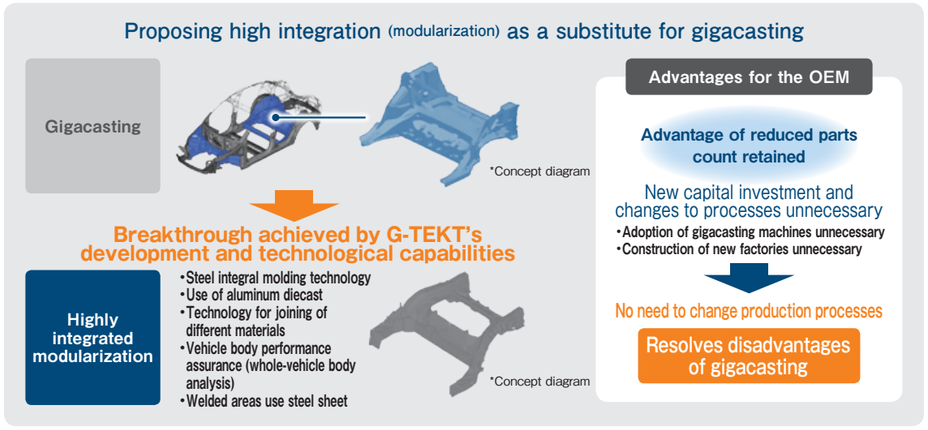
Strategy 1 Proposals for optimized body frame components that coexist with gigacasting

Recently there has been a trend towards the use of gigacasting in vehicle body structures. For automotive OEMs, gigacasting offers cost advantages in the form of significant reductions in parts count, but there are also many issues to address, such as the requirement for new capital investment and the inability to use it on existing manufacturing lines. Gigacasting is currently used for parts around the front and rear wheelhouses of the vehicle body, and the impact on parts for which we receive orders has been limited. We will apply our whole-vehicle body analysis technology to surrounding parts in models that have adopted the use of gigacasting in this way, and seek total optimization of the vehicle body, including the use of highly integrated parts using hot stamping.



Strategy 2 Proposals for highly integrated parts as new options for gigacasting

While the greatest advantage of gigacasting lies in the reduction of parts counts, it requires automotive OEMs to make vast capital investments and major modifications to production lines. As a new and alternative solution to this, G-TEKT is proactively proposing highly integrated parts (modularization), which is an approach in which the Company undertakes production and enables the use of existing production lines while retaining the advantages of reducing the parts count. Specifically, through the application of integral molding technology for steel sheets using hot stamping (an area in which we are especially proficient), and the partial utilization of aluminum diecast, we will achieve reductions in the parts count while enabling automotive OEMs to use steel sheet as before for those areas that are welded on the production line, thus cutting costs while simultaneously minimizing capital investments.

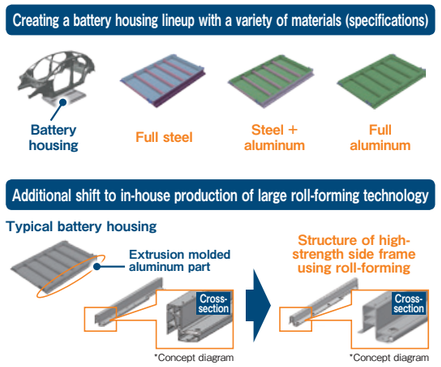


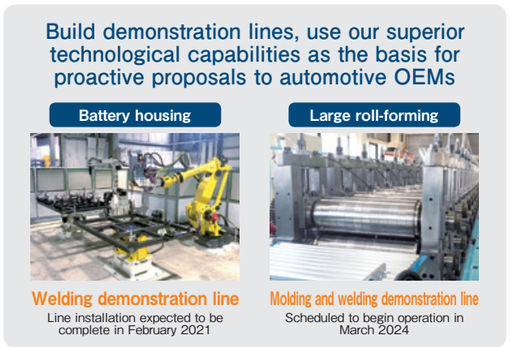
Strategy 3 Three advances driven by external collaboration

G-TEKT proactively engages in a variety of initiatives involving external collaboration.
(1) Deepening of knowledge: Application of mass-production technology for which the mechanisms have been clarified by basic research conducted with universities
(2) Renewal of products: Development of modules (products) that reflect recent trends through the use of ESPs
(3) Evolution of existing products: By strengthening our business portfolio through external collaboration, such as joint development efforts with Ahresty to drive the progress of the shift to EVs, and initiatives for carbon neutrality, and by deliberating the future form of the vehicle body with our partners, we will enable the provision of products with outstanding fuel economy and collision safety.

Strategy 4 Proposals for using our abundant experience and knowledge as a vehicle body manufacturer, targeting the expanding market for next-generation BEVs.

For the battery housings that are a part characteristic of BEVs, we are building a lineup with flexible specifications that can be used for the various models created by automotive OEMs. We are also forging ahead with development focused on side frames using large roll-forming technology, which has already been adopted for the sides of the battery housing.
For parts used in large products such as battery housings that use roll-forming, it is difficult to maintain dimensional accuracy. To provide evidence of the advanced nature of our welding technology and our high level of quality we will build demonstration lines for both, and use our superior technological capabilities as the basis for proactive proposals to automotive OEMs.





On track for growth as a body-in-white specialist

Hitherto we had focused particularly on research and development that enabled us to offer the optimal proposals for vehicle bodies. In order to contribute a new bodies in white, we will move forward with R&D in a variety of product areas going forward. By blending these areas and deriving from market needs a vision of the vehicle body to which we will give form and offer to customers, and by promoting strategic development using the intellectual property landscape, etc. to develop products through backcasting, we will grow to become a body-in-white specialist.

Case study of future-oriented development (patent no. 7253102)

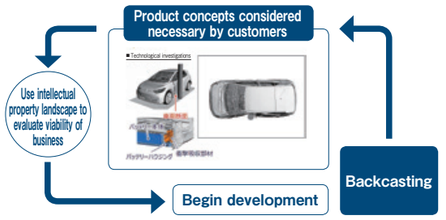
The manufacturing method of the impact absorbing member and manufacturing method of the impact absorbing member of an automobile and side sills.

Background to development

With increasing integration between the vehicle body and the battery housing, the function of strengthening materials becomes important. We envisaged the shape of products with energy absorption, productivity, and sustainability superior to previous products, and began working on their development.

Promotion of development

As we worked to embody these ideas in products, we analyze the business strategy of competitors in the intellectual property landscape, and verified the reasonableness of our approach. As a result, we have established manufacturing methods that confer competitive advantages, including the acquisition of patents.



※IPL:IPLandscape

Strategy 5 Ownership and structure for strategic intellectual property to support the expansion of the business

G-TEKT considers intellectual property, including patents, to be an important asset class, and emphasizes its proactive use in the business. For this reason we have introduced the following frameworks within which we are promoting operations.
(1) Supervision by the Board of Directors
The Board of Directors supervises intellectual property, evaluating targets and actual results every fiscal year. This ensures the strategic use of intellectual property.
(2) Spaces for discussion in each headquarters and business
We provide spaces to discuss the acquisition and use of intellectual property. These enable the promotion of clearly defined scenarios for the use of intellectual property.
(3) We will promote the business by ensuring that one with individuals responsible for intellectual property are involved at each stage of the consideration process.
Through these mechanisms we will avoid the risk of infringing the patents of other companies at the initial stages of development. Furthermore, we believe that we can build a patent portfolio to provide comprehensive protection to patent applications and technology improvements on the assumption that they will be utilized in the business.