

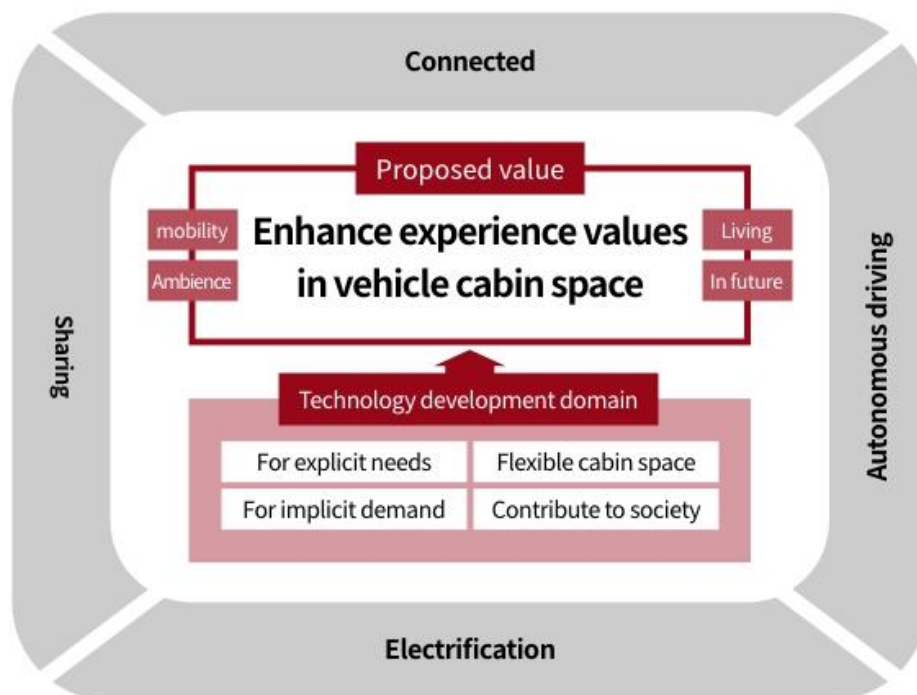
Products that contribute to Sustainability

By continuing “To live in harmony with individuals and society and to put smiles on people's faces by continuously creating living spaces of comfort and enrichment” and convey trust and excitement to customers around the world and contribute to the creation of a prosperous society.



Toward Creating Social Value Through Our Products

The automobile industry in the midst major transformation is undergoing changes in various aspects such as the environment, safety, and economy. In terms of “environment”, technological development and material development are progressing to reduce CO₂ emissions, which is one of greenhouse gases, and efforts are being made to achieve the SDGs. In terms of “safety,” safe driving support technology that prevents accidents by acquiring information related to vehicle and road conditions with sensors has been evolving rapidly. In terms of “economic”, a business models that provide new value and services by collecting, accumulating, and analyzing data acquired while moving via networks are being considered. In such a major transformation, it is predicted that the way of spending time in the car cabin will change in the future. We believe that car transportation will no longer be a mere means to travel, and the “offered value” and “appeal” required of automobiles will change as well. We hope that we can meet the expectations of a changing society by “enhancing experience values in vehicle cabin space” for various ways of time usage and are strengthening technological development in the following areas.



- “Pursuit of Seating”: For explicit needs and implicit demand, Body sensing, SW-less, anticipatory support
- “Supporting people”: For flexible cabin space, Easy space arrangement, privacy-friendly
- “Supporting the Earth”: To contribute to society, Environmental technologies and plant-derived materials

Examples of products that create social value

Below are some examples of products and services by our company and affiliated companies that contribute to creating social value.

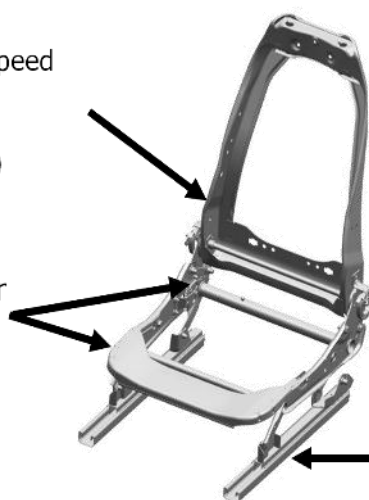
| The “TTK Series” contributes to weight reduction

As part of our efforts to achieve carbon neutrality, we are working to reduce the weight of our seats and adopt construction methods that emit less CO₂. The newly developed seat frame “TTK-X” maintains and improves the safety and functionality of the product, while further expanding the application of laser welding and laminating pressed parts, achieving the lightest mass level in the industry, reducing the processing cost of the frame and reducing CO₂ emissions.

Seat Frame 「TTK-X」

Laser welding with high processing speed and low CO₂ emission is adopted for welding the back frame (Arc welding is completely abolished)

New fastening method with lower CO₂ emission than arc welding



Laser welding with low CO₂ emissions connects the slide and cushion parts to achieve even lighter weight

■ Developer's voice

Takeshi Nishina, Product Design Department No.1, Product Design Section



The TTK-X is a completely new TACHI-S proposed Seat frame consisting of laser welding with low CO₂ emission on the back frame, a new fastening method with low CO₂ emission on the cushion frame, and a thin sheet of high-tensile steel that is lighter than ever before. At the development stage, we had a particularly hard time completing specifications that balance safety performance and vehicle merchantability, as well as stabilizing the quality of laser welding. Professional members from the development and production departments worked as a team to meet the strict requirements that were different from the past, and were able to meet the performance, merchantability, and productivity requirements. This is truly a frame that brings together everyone's strengths, and I believe that the success of this development was due to the fact that we were able to work positively as a team. The TTK-X is a completely new front frame that has never been seen before. Based on this, we will develop more advanced seats.

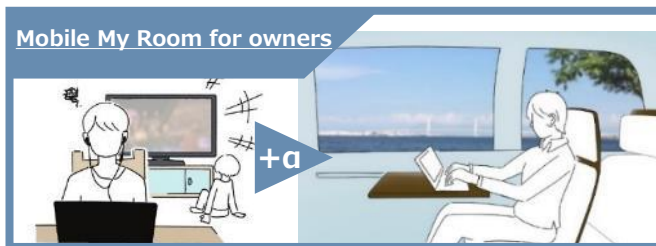
“Mobile My Room” concept for next generation vehicles

TACHI-S, as a space producer, is now trying to create values that focus on experience values through mobility and seat-centered in-vehicle space. One of those studies is the “Mobile My Room” concept to address usage for CASE. The single word for this concept is “1+α”. “1” expresses the current or daily situation and is added with “+α”. Something will be “+α” dependent on each life-style. In-vehicle space around seats, we think that this “+α” is offered to users, is co-created with users.

■ Mobile My Room



■ “+α” images of Mobile My Room



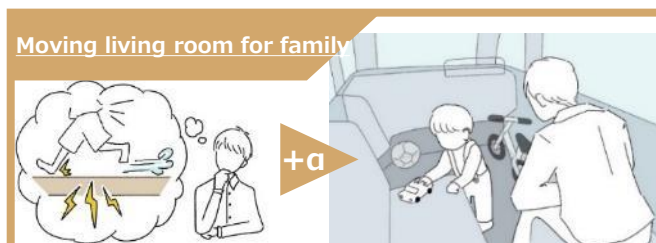
Mobile My Room for owners

Space mainly for desk work
Such as work, study and sometimes take a break...
Place where you can concentrate on work.



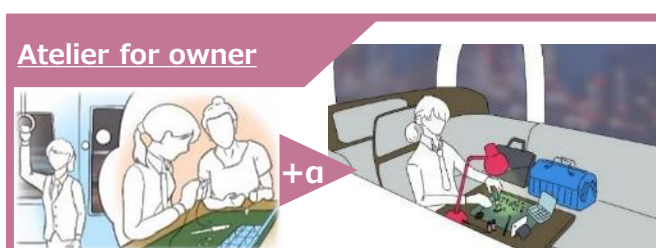
My Room +α

Space for meeting with close friends /
As a means of travel and also a room
while traveling.



Mobile living room for family

Space to spend time with children without
having worry about surroundings.
Place as second living room.



Atelier for owner

Personally specified room to immerse
yourself in hobbies
(Secret base?)

■ Developer's voice

Ukyo Miyazawa, Product Technology Development Department, Advanced Development Technology Section



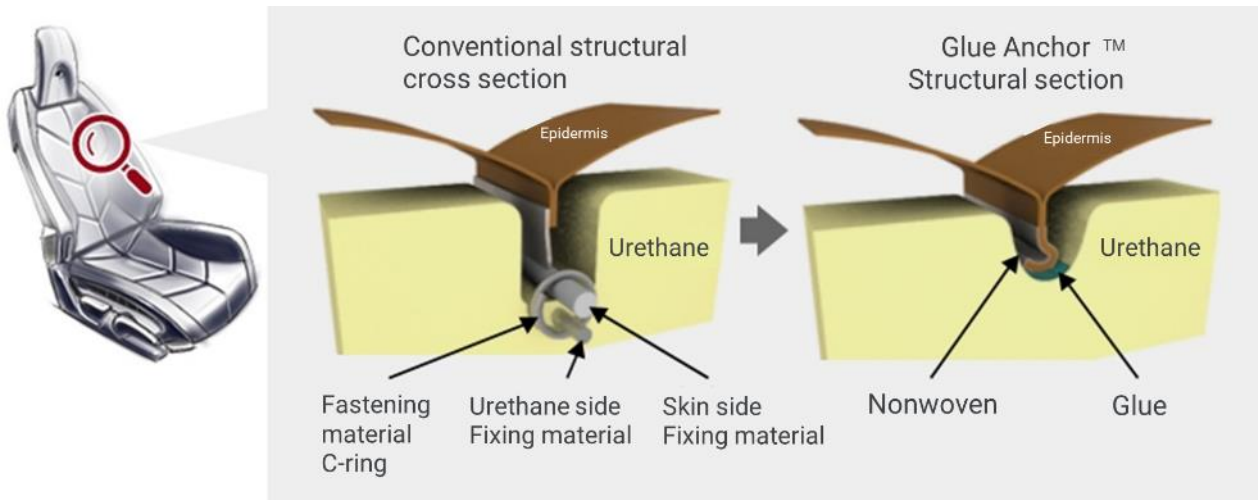
In conjunction with reconsidering the whole concept of automobile seats, we had studied in-vehicle space to meet various life-style in CASE era. By eliminating as much as possible elements which recall conventional in-vehicle space, we believe that we could propose new value as you could feel having another room. We will continue to study, propose and develop attractive in-vehicle space by being with users in the future.

The "Glue Anchor®" that contributes to design freedom and the environment

We have succeeded in mass-producing the technology "Glue Anchor®" that can contribute to the improvement of design freedom and the global environment. This Glue Anchor® is a technology that glues the sewing line of the trim cover directly to the urethane foam.

With conventional technology, it was not possible to express unevenness by joining complicated sewing lines to urethane foam due to manufacturing restrictions, but this technology has made it possible. In addition, while the conventional technique used point joining, this technology uses line joining. By joining with lines, it has become possible to achieve stable and uniform unevenness up to the terminals where the sewing lines intersect.

In terms of the environment, reducing the weight of seats has become a major proposition in these days when CO₂ emissions are required to be reduced. This technology can make urethane foam thinner than conventional technology and contributes to weight reduction of seats. In addition, this technology is a resource-saving (lightening) technology that can reduce the use of iron and resin compared to the conventional method.



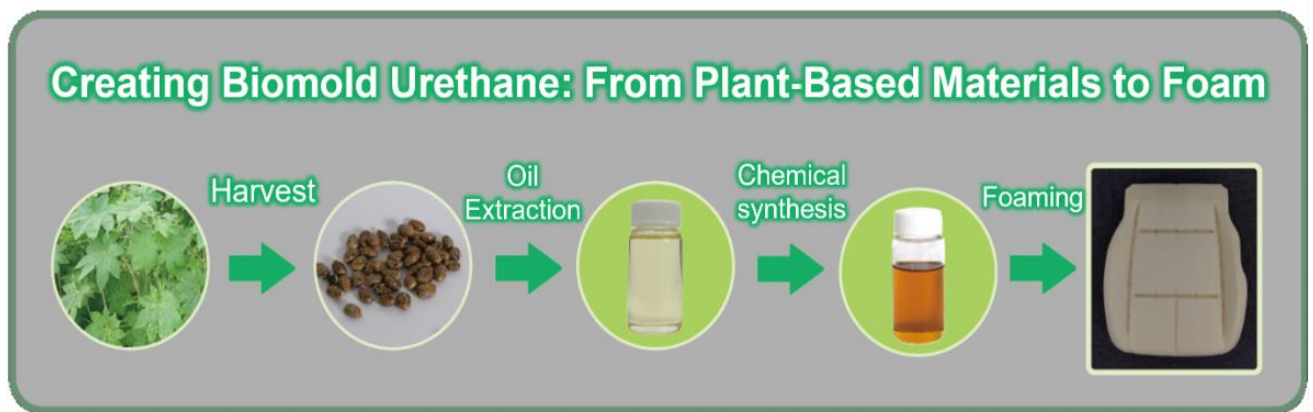
Developer's voice

Makoto Arai, Section Manager, Production Engineering Department



The "Glue Anchor®" is a joining technology of urethane foam and trim cover of TACHI-S Only One, which is based on the existing technology and adds new elements to the essence. We firmly retained the idea that we value in the know-how cultivated by the conventional construction method and boldly innovated the part to be changed to establish the technology. Although there were some difficulties in the development stage, we were able to successfully complete the development and deliver it to our customers as the world's first technology.

The “Biomold Urethane Foam” A Sustainable Seat Material Solution



As part of our commitment to sustainability, we are developing a 'biomold urethane foam' for automotive urethane pads that partially uses non-edible plant-based materials (castor oil). While aiming to reduce environmental impact, we strive to balance this with essential performance features such as comfort and durability, thereby contributing to the realization of a sustainable mobility society.

■ Developer's voice

Takiwaki Kunikazu, Urethane Technology Expert



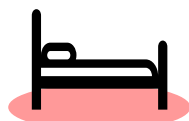
The development of Biomold Urethane Foam is an initiative aimed at creating environmentally friendly products by utilizing non-edible plant-based materials, specifically castor oil. In the development process, we are working to optimize foaming conditions and material formulations to ensure seating comfort and durability equivalent to conventional urethane. Currently, we are collaborating with internal and external members to solve numerous technical challenges toward mass production, and we remain committed to continuing this pursuit.

“Dialysis exercise therapy equipment” contributes to nursing care and welfare

TACHI-S H&P Co., Ltd., a group company of the Company, aims to contribute to the improvement of welfare in an aging society. We are engaged in the nursing care and welfare goods business utilizing our knowledge as a seat manufacturer.

One of the products that TACHI-S H&P is considering to develop is "dialysis exercise therapy device". It is standardized to do dialysis for 4 hours/time and 3 times/week. In order to avoid loss of physical strength and muscle loss due to long-term hemodialysis treatment, we worked on product development to improve dialysis efficiency and improve the patient's quality of life by using this product as an aid to dialysis exercise therapy. This product is designed to be attached to a TACHI-S H&P bed or table so that you can exercise in the limited space.

■ Dialysis exercise therapy equipment



On dialysis



Blood flow
promotion



QOL
Improvement



No storage
required



In-house
technology



■ Developer's voice

Takuro Yamamoto, Product Development Department, Product Development Section, TACHI-S H&P



The dialysis exercise therapy equipment is a product that is being developed based on the needs of facilities. The need for exercise therapy is increasing due to the recent revision of reimbursement and the increase in the average age of dialysis patients. We would like to promote the development of this product to improve the efficiency of dialysis and life expectancy of patients. In the future, we aim to provide products that satisfy both facilities and patients by verifying the effectiveness of our products and improving them with the cooperation of facilities..