

Creating Social Value Through Our Products

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.

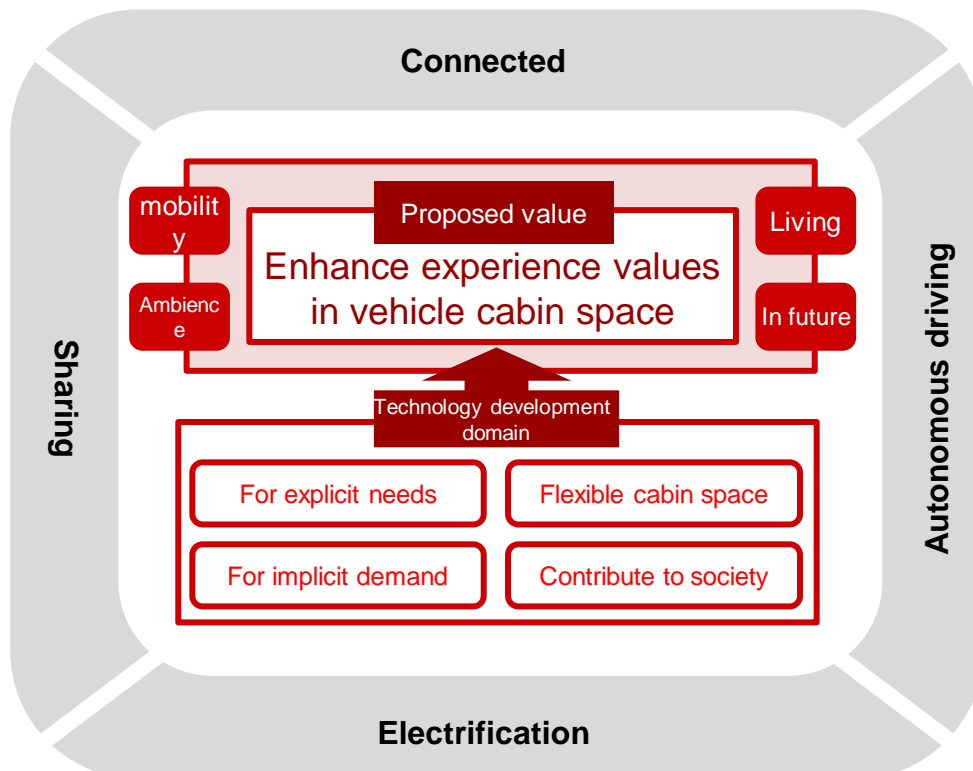


Toward Creating Social Value Through Our Products

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

Changes in the automotive industry



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 a carbon-neutral initiative we are working to reduce the weight of seats and adopt a method that emits less CO₂. The seat frame “TTK2.0 Kai Frame” developed by our company adopts a newly developed manual slide rail while maintaining and improving the safety and functionality of the product. We have reduced the number of parts by 30% and the weight of the product by 15%. In addition, we have adopted laser welding fastening, which is the first adoption for us, to reduce processing costs and CO₂ emissions.

This product has been adopted in mass-produced models after 2021 in Japan and Thailand.

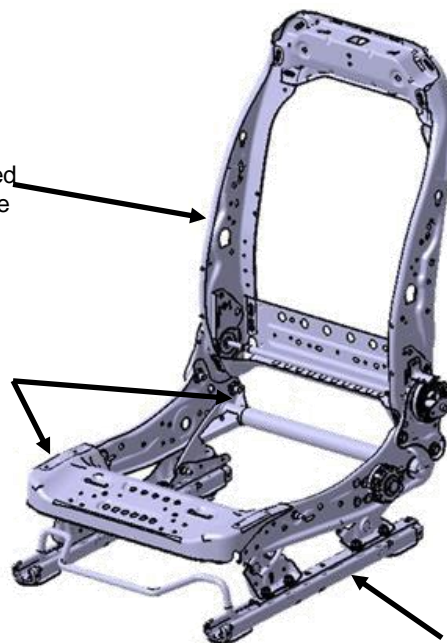
We are developing new frame that is applied laser welding more and reduce part thickness to contribute to carbon neutrality, to mass-produced vehicles after 2023.

[Click here for more information about \[Seat frames after 2021\]](#)

Seat frame “TTK2.0 Kai Frame”

Laser welding with high processing speed and low CO₂ emission is adopted for the welding of the back frame for the first time.

Uses a new fastening method that emits less CO₂ than arc welding



Adoption of manual slide rail with reduced number of parts due to rationalization of structure

Developer's voice

Hisayuki Yoshizawa, Section Manager, Product Design Section



“TTK 2.0 Kai” is a new Tachi-s proposed frame (TTK) using laser welding for the back frame and a new fastening way for the cushion frame, to emits less CO₂.

In the development phase, it was difficult to achieve compatibility in safety performance and marketability, and to stabilize laser weld quality. Professionals from the development and production departments worked in one-team to meet requirements different from before and cleared performance, commerciality, and productivity targets. I think it is a frame that gathers everyone's strength. Even in an epidemic of COVID-19, the team worked together positively and completed development.

This FRM is a new way of producing. Based on this, we will develop more advanced seats.

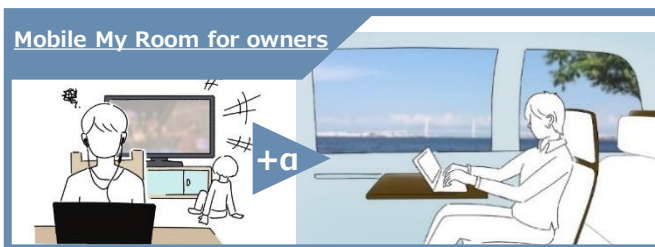
“Mobile My Room” concept for next generation vehicles

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

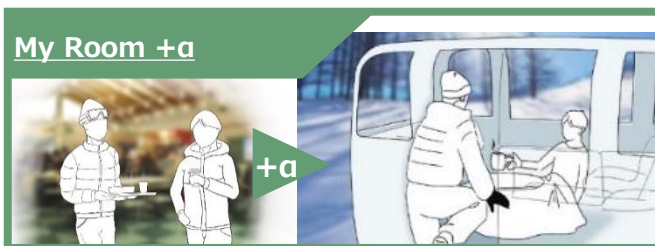


■ “+α” images of Mobile My Room



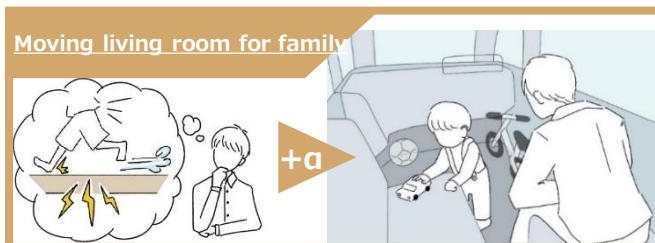
Mobile My Room for owners

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



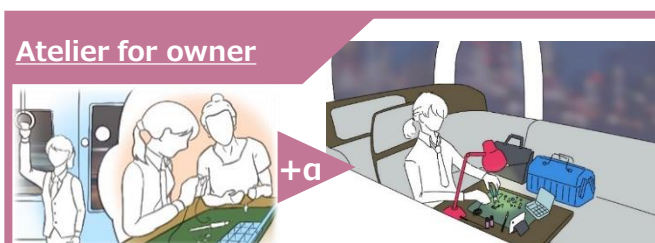
My Room +α

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

Kouhei Yasuda, Advanced Development Technology Planning Department,
Development Planning and Styling Development 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.

Examples of products that create social value

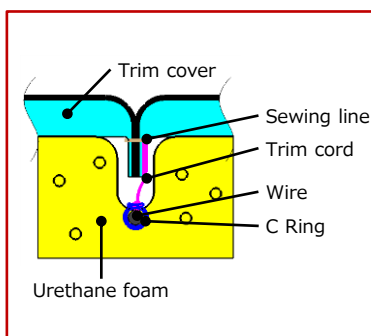
Below are some examples of products and services by our company and affiliated companies that contribute to creating social value.

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

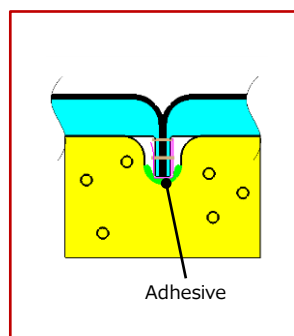
We have succeeded in mass-producing the technology "Glue Anchor®" that can contribute to the improvement of design freedom and the global environment. This Glue Anchor® is a technology that glues the sewing line of the trim cover directly to the urethane foam.

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.



**C Ring
(Conventional method)**



Glue Anchor®



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.

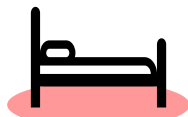
“Dialysis exercise therapy equipment” contributes to nursing care and welfare

TACHI-S H&P Co., Ltd., is our group company, is engaged in the nursing care and welfare products business. It uses its knowledge as a seat manufacturer with the corporate objective of contributing to the improvement of welfare in an aging society.

One of the products TACHI-S H&P has developed is the “Dialysis exercise therapy equipment.”

Dialysis is standardized to be performed 4 hours/treatment, 3 times/week. Patients should avoid physical weakness and muscle loss caused by prolonged hemodialysis treatment. The use of this product as an aid in dialysis exercise therapy will improve the efficiency of dialysis and the quality of life of patients. This is the reason why we have developed this product. This product is designed so that you can exercise in a limited space by attaching it to your bed or table.

■ Dialysis exercise therapy equipment



On dialysis



Blood flow promotion



QOL Improvement



No storage required



In-house technology



■ Developer's voice

Satoshi Hashimoto, Subsection Supervisor, Technical Department, 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.