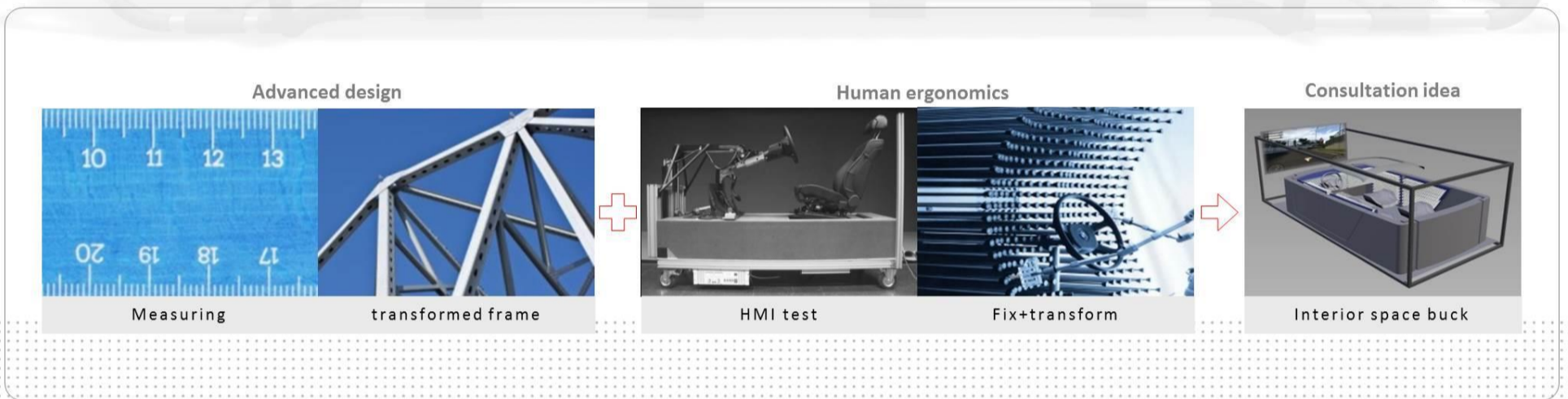




# Communication tool

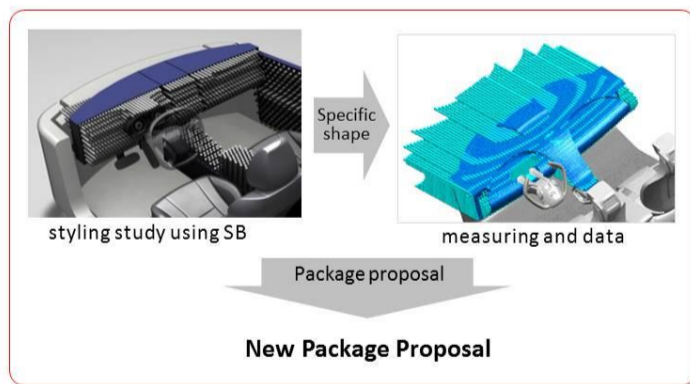
- A Study on Optimization of Interior Space Considering Human Engineering  
Ergonomic optimization model considering convenience/ Maneuverability/visibility considerations  
- Flexible interior sitting buck fits to review vehicle type package

Human Engineering Verification Tool for easy changing and verification in Advanced design phase



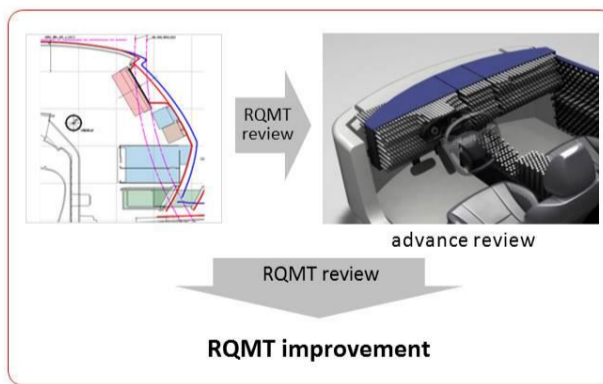
## New concept proposal using SB

new package proposal after review of design concept styling



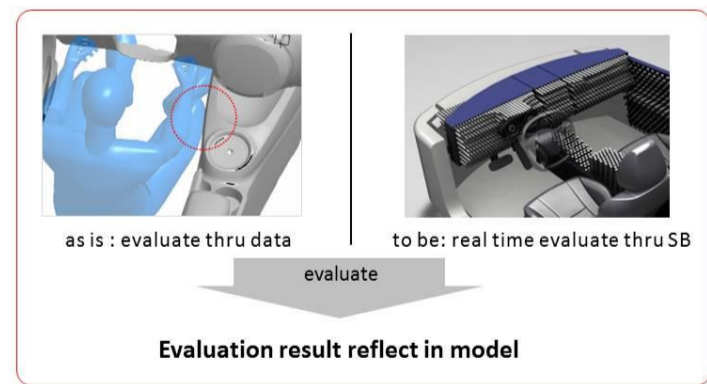
## RQMT validation in early stage

early RQMT advance review



## Evaluation of Project Critical Issues / Establishment of improvement plan

Quick assessment of key issues after 1st evaluation

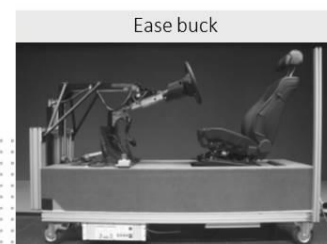


## Existing sitting buck



### features

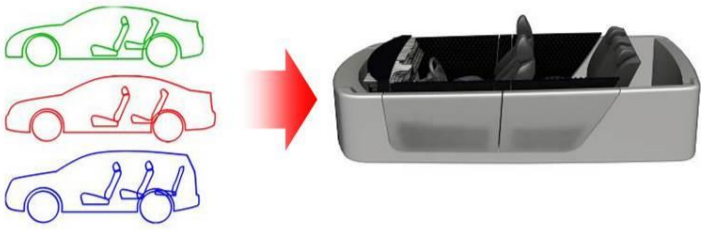
- package changes
- adjust hard point
- adjust roof position
- detachable pillars
- visibility test
- complicated structure
- existing EXT/INT parts installed





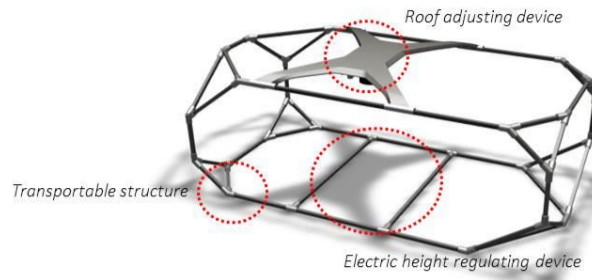
### Space buck outer form proposition

- Simple exterior feature applied to accommodate various vehicle types



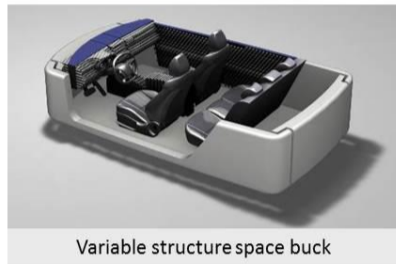
### Functional outer frame proposal

- Exterior framing for height control (including roof) and movable structures  
- Features motorized height adjusters and variable geometry construction

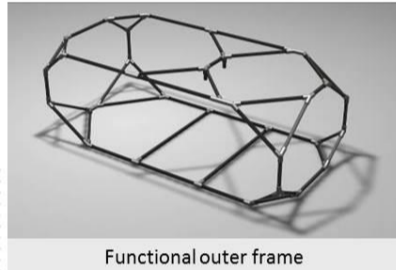


## Basic structure

- A Study on the Analysis of Spatial Configuration of a New Concept  
Based on the Analysis of Traditional sitting Architecture  
- Structural Performance of transformable Buck by means of a variety of vehicle variants



Variable structure space buck



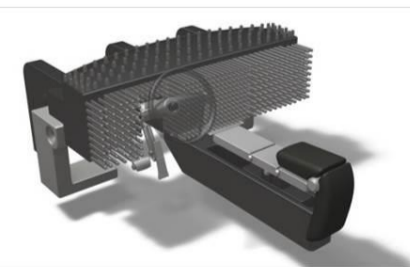
Functional outer frame



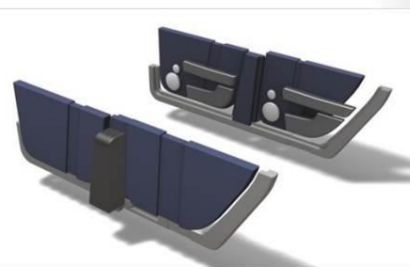
Dimension 4,750X 2,000X 2,000



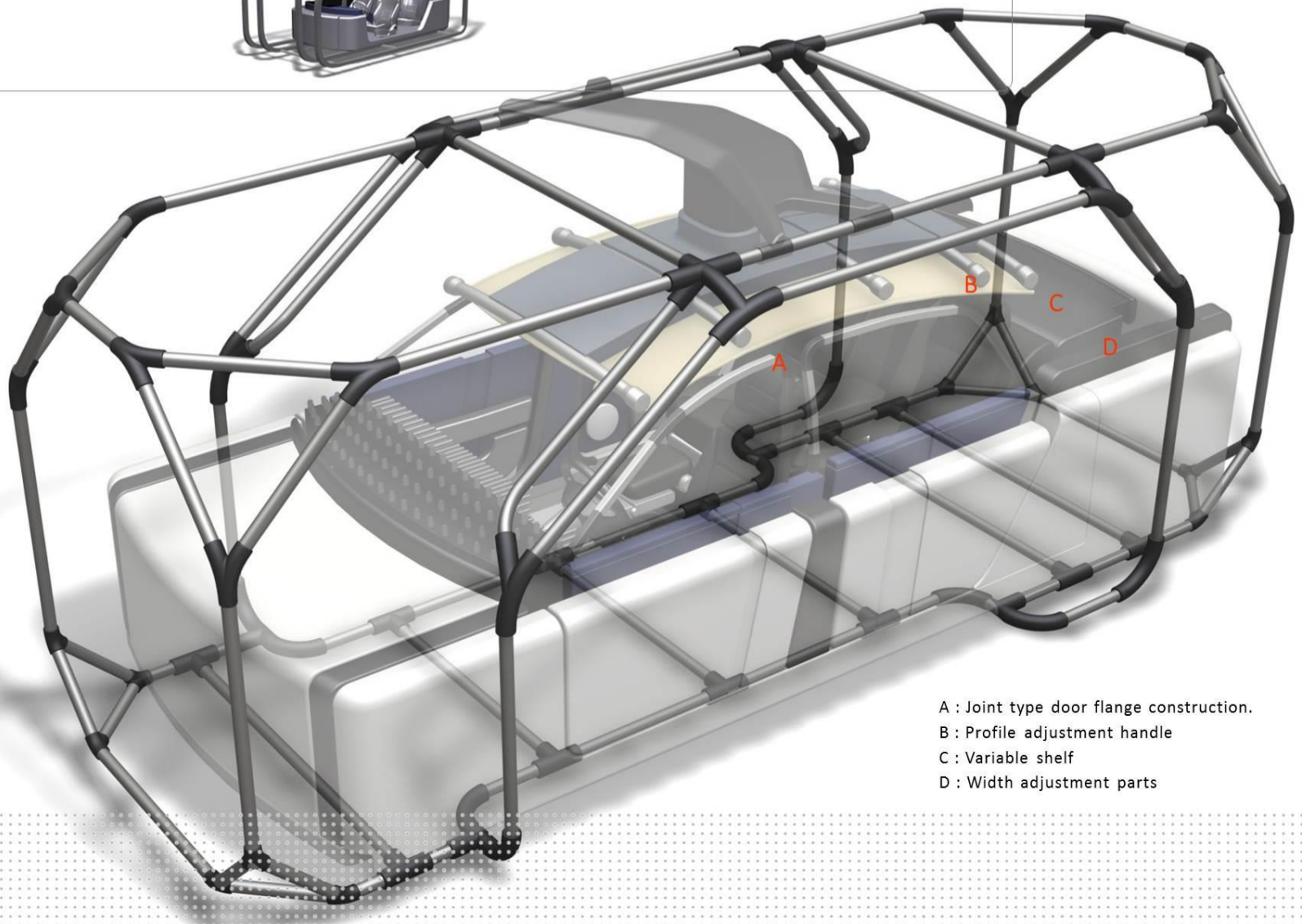
### Frame study



Pin module and variable console



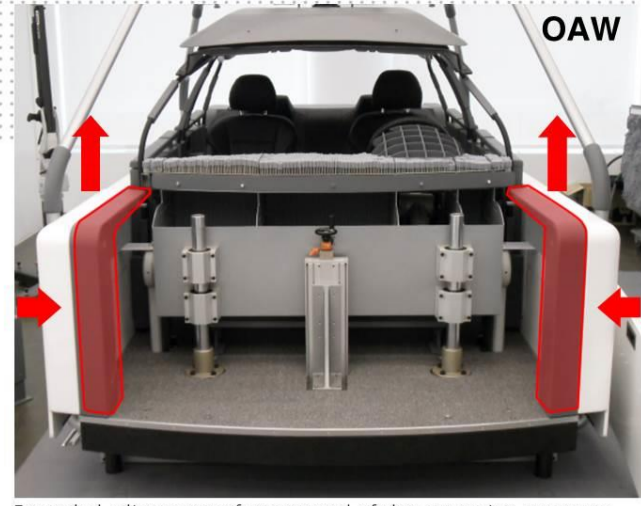
Sliding Variable Door Structure



A : Joint type door flange construction.  
B : Profile adjustment handle  
C : Variable shelf  
D : Width adjustment parts



OAL, OAH



OAW



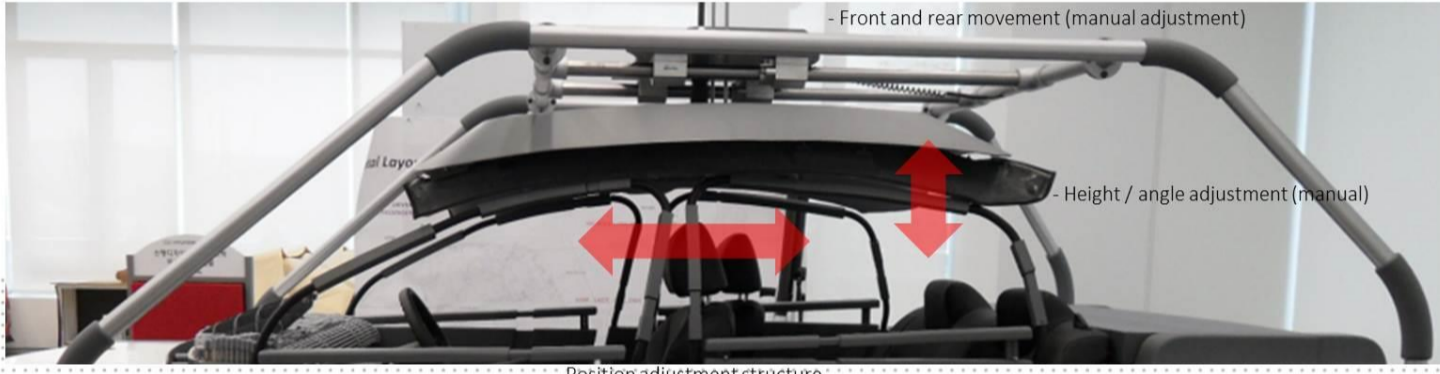
- Ability to control the battlefield with a slide structure
- Power height adjustment

Extended adjustment after removal of the expansion structure

Adjust according to vehicle type guides

### Default Setting

- Sliding structure to adjust OAL
- Power height adjust
- Removable module to adjust OAW



- Front and rear movement (manual adjustment)

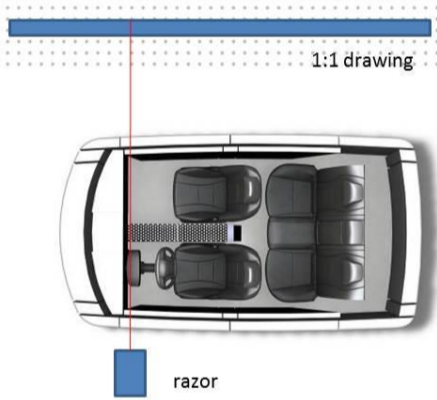
- Height / angle adjustment (manual)

Position adjustment structure

Adjusting the Power roof Height



Power height adjustment controller



1:1 drawing

Height adjust lever : dashboard

razor



position setting

### Driver position Setting

- Position setting
- Seat setting
- S/WHL, Pedal setting

Seat setting

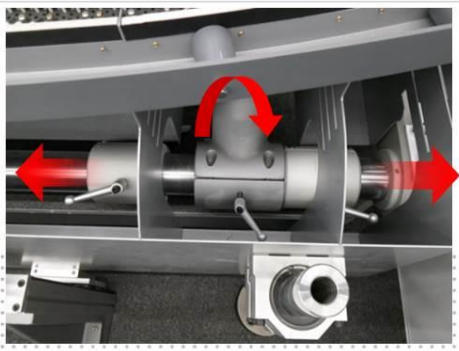


Universal seat base (free position)

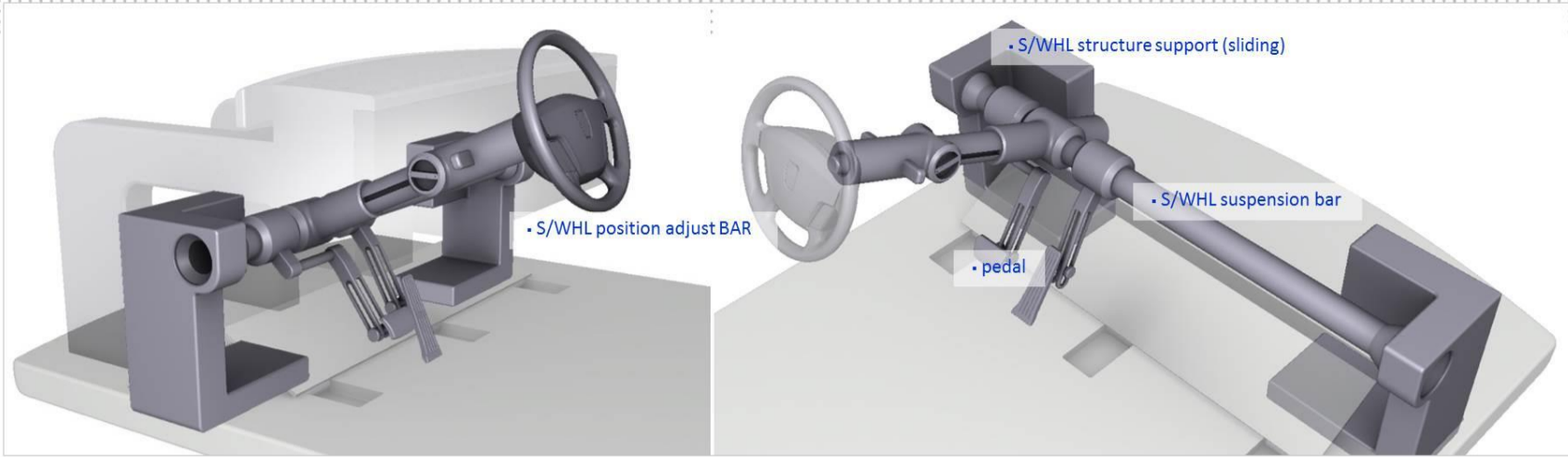
S/WHL assembly setting



-adjustable position

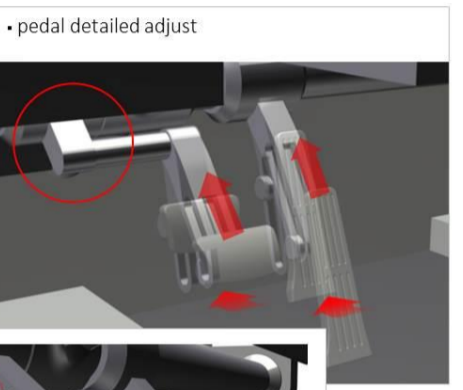
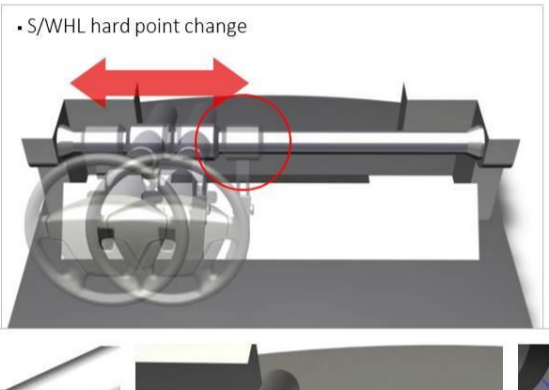
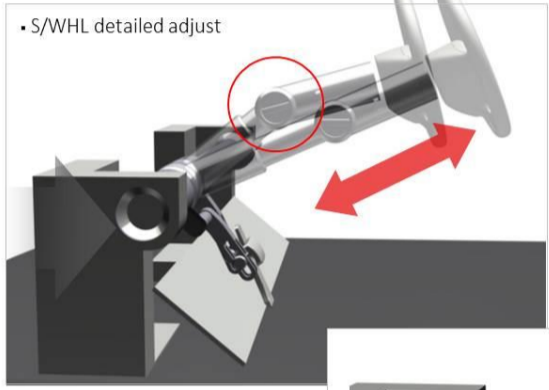


-adjust pedal position guide line setting

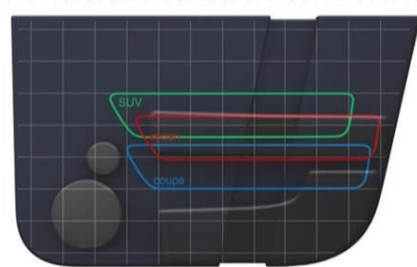
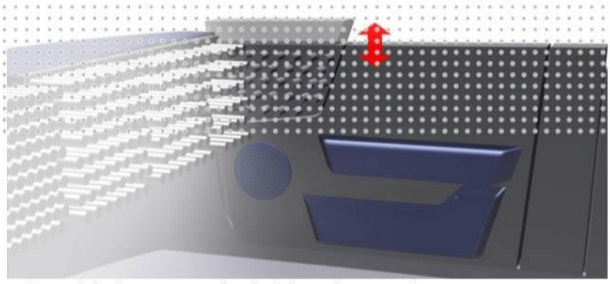
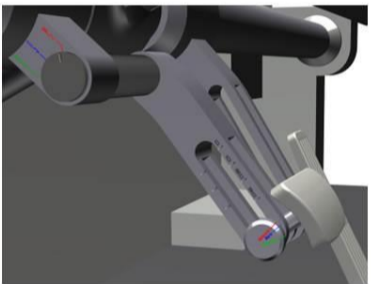
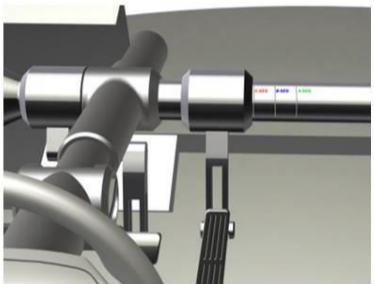
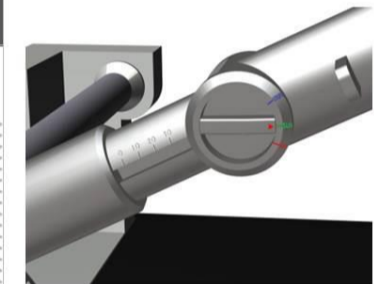


**S/WHL assembly structure**

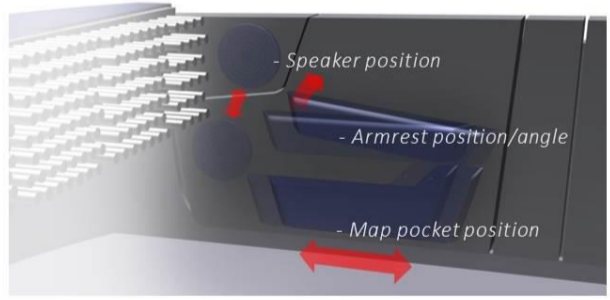
- A Study on the Structural Model by S/WHL, Pedal Structure



-guidelines by car type



guidelines and grids for each type of vehicles on the door panel



Door type



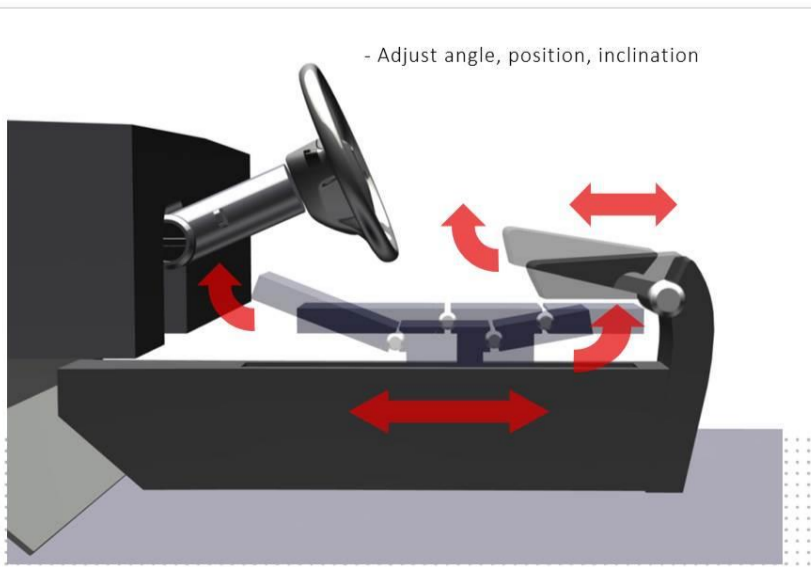
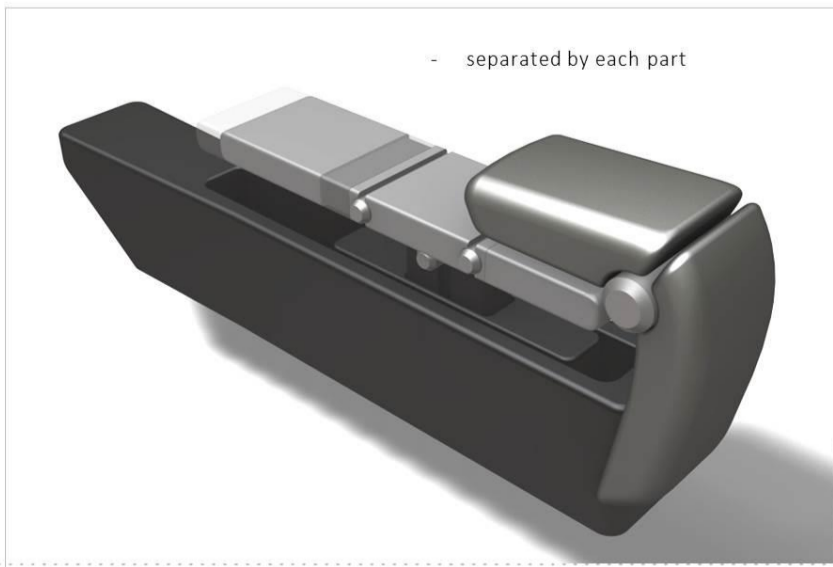
2DOOR

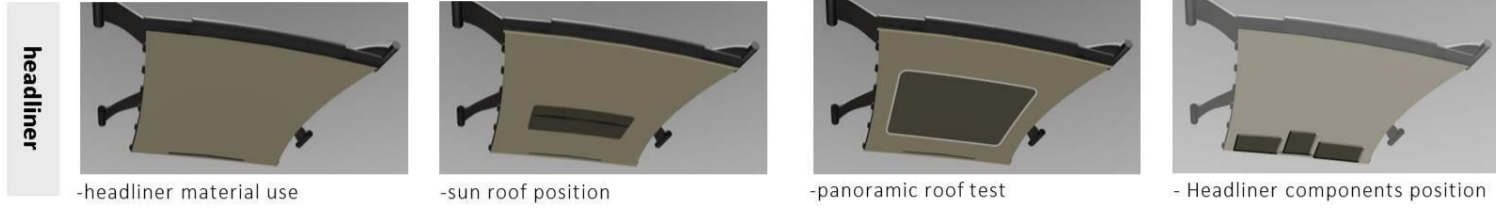
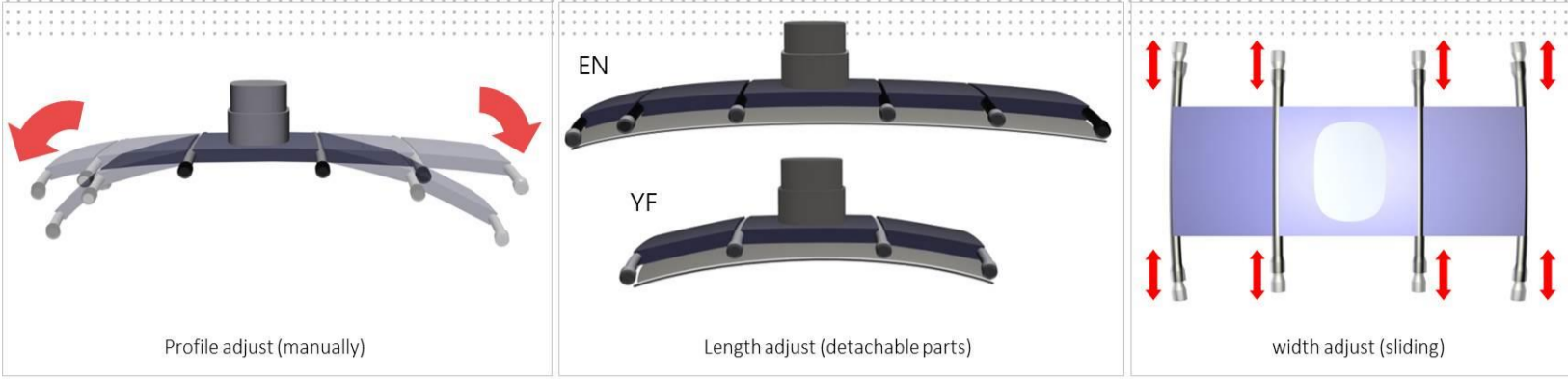


4DOOR

**Door panel / Floor console structure**

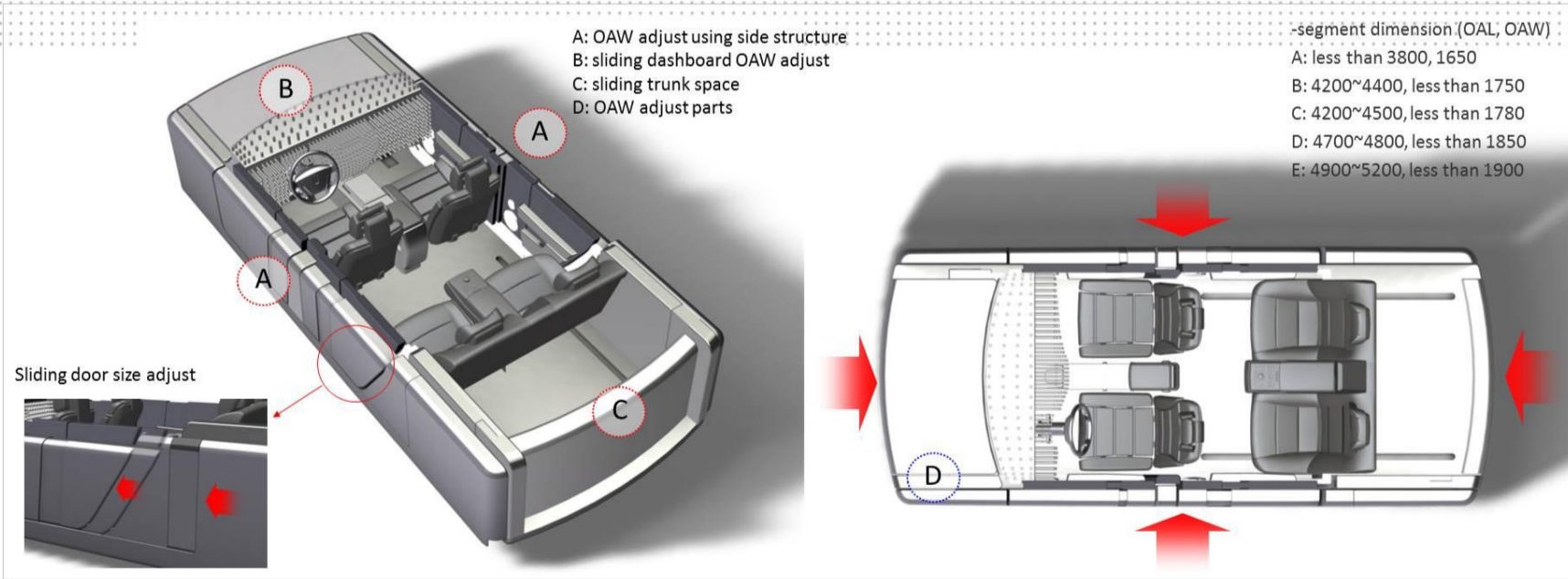
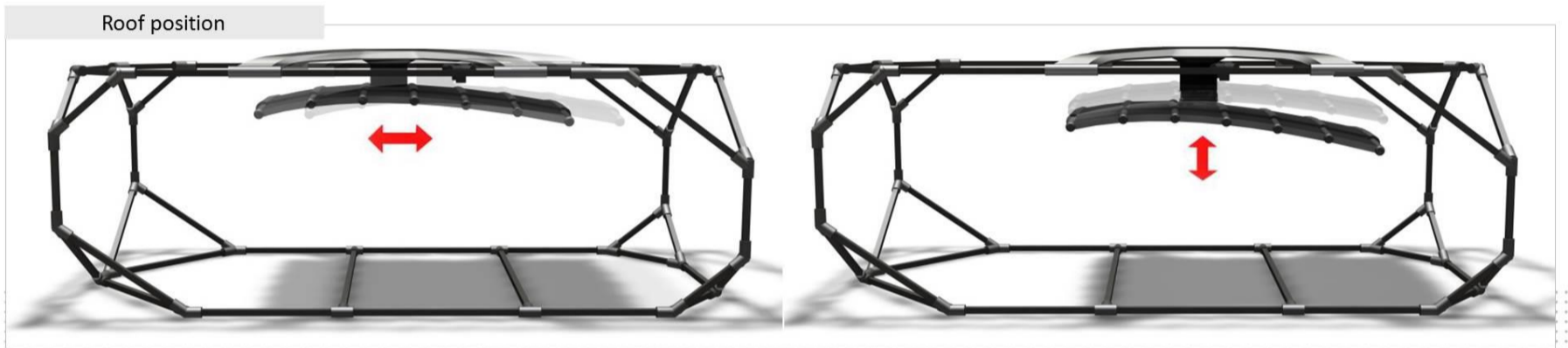
- Fully adjustable components





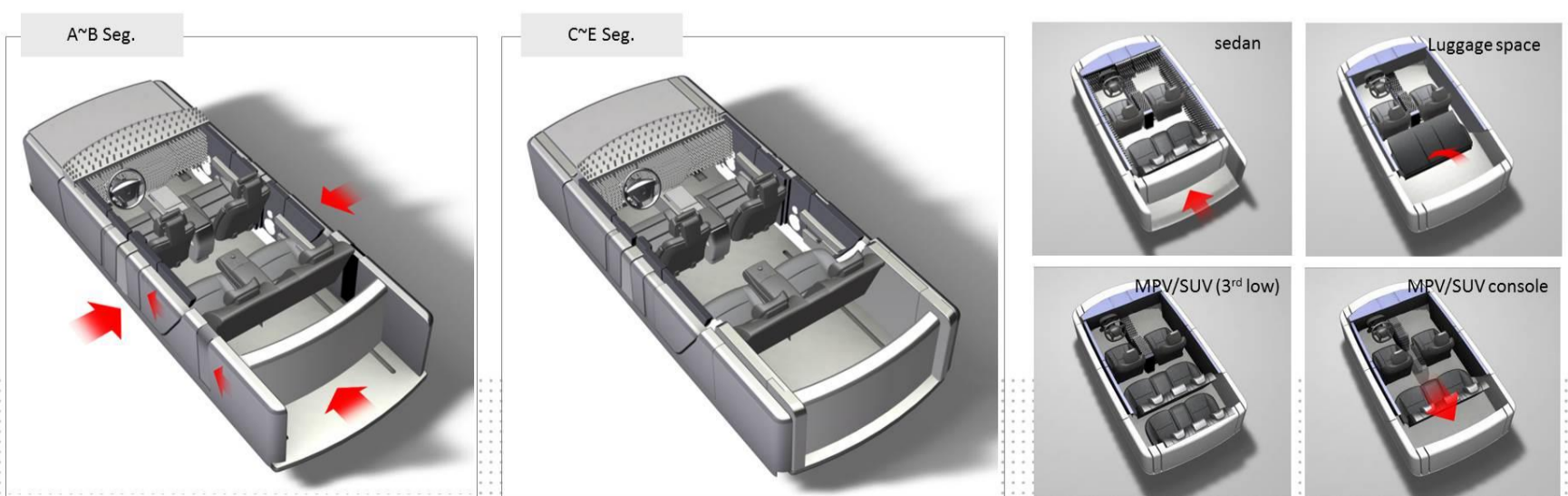
### Roof structure

- Interior headliner setting



### Transformable structure

- Covered full segments





dash board



Guide section gauge to embody a form



3D measure to check changes

## Pin Modules

- To study shapes (dashboard, door trim)
- Adjustable section gauge to guide a basic shape
- Door sized pin module

components form study

• Floor console (Long version)



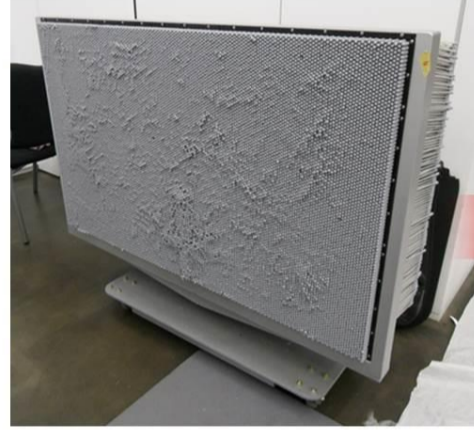
(Short version)



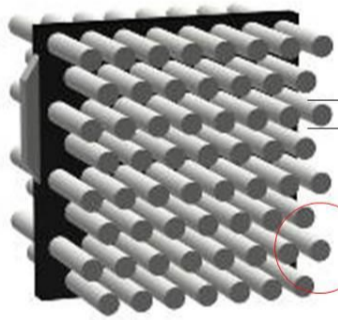
• Floor console pin module



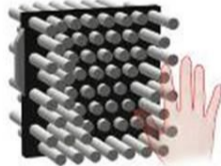
Works with removable structures to enable form implementation



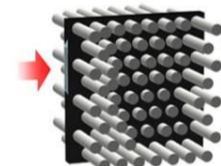
Construct a pin module molding using the vehicle exterior gauge when considering the door review



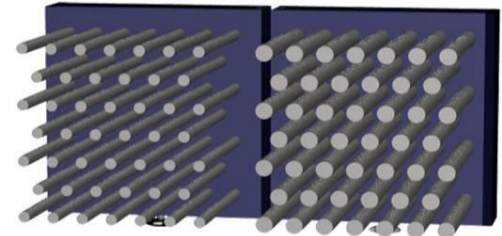
- Form generation using pins move back and forth
- Pin diameter and spacing adjustment
- variety of structure representations of modular structures- depending on the application parts.



Manually implemented by hand



Pin fixing after feature application

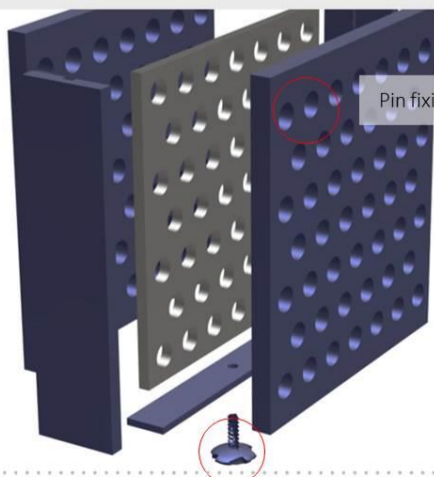


- Pin module dualize (pin diameter, distance) by application area
- Test module for evaluating (pin diameter 5 mm, 10mm)

## Pin module

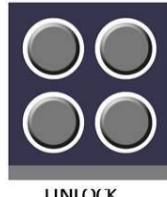
- Free Design Study Using pins

Pin fixing structure

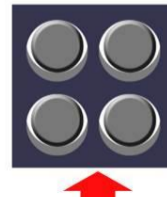


Pin fixing panel

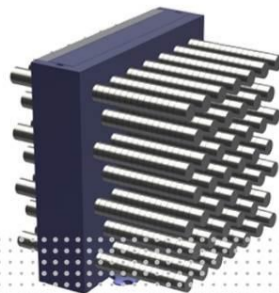
Pin fixing screw



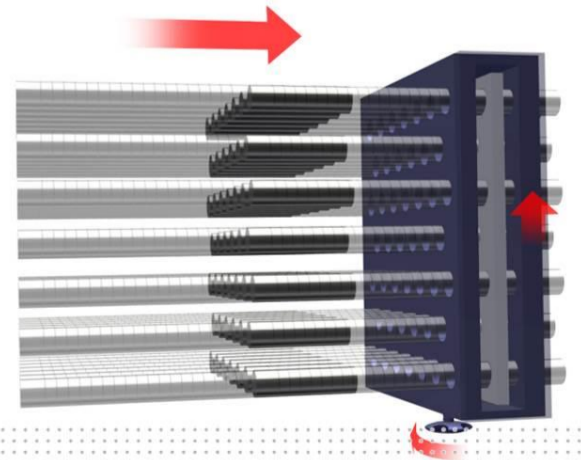
UNLOCK



LOCK  
PUSH INNER PANEL



Pin structure module



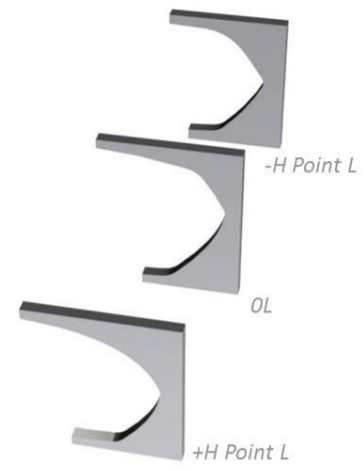
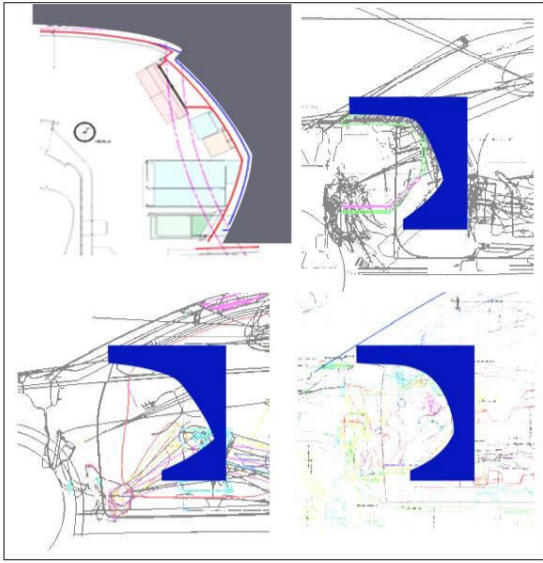
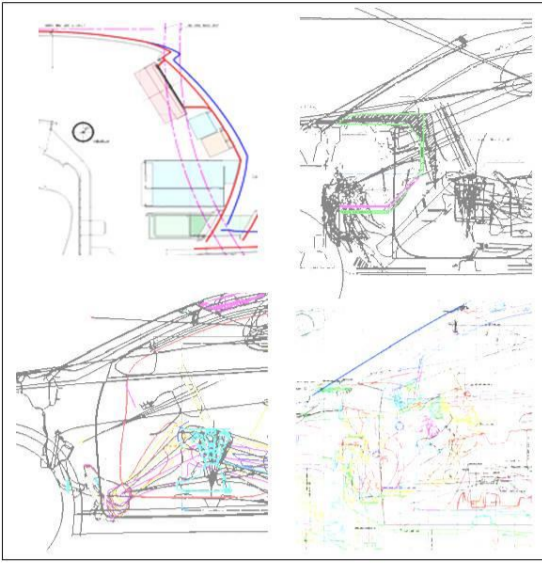
- Pin position fixing using fixing screw after pin-feature application



Review the package thru pin modules

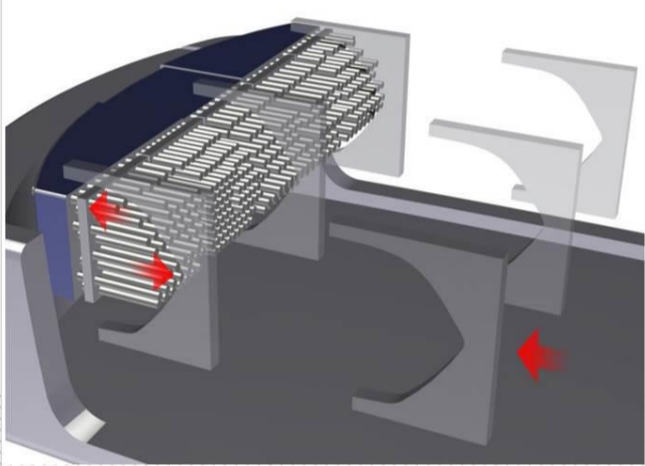
Guideline for Making Guide Architecture for RQMT Applications

Fabrication details

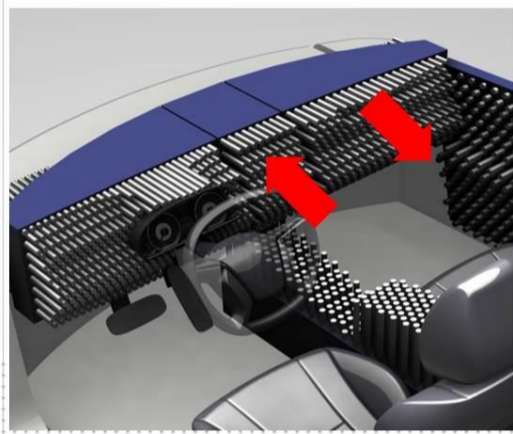


-> Creating a template by region after receiving RQMT (OL, +-H Point)

-> Apply a guide pin structure using templates



-> form study using Guide Architecture



-> Shape coding through pin fixation after securing pin structure



Corrugated hose (Jabara)

Pillars & Opening Flange



Evaluate luggage space



3rd row seats available when applying SUV models in a sliding structure

Door trims

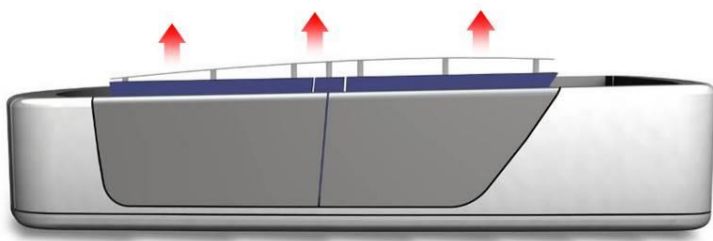


Use a magnet to change positions freely

- Use the adjustable 'Jabara' structure to position the A-pillar position and forward view.
- Extended joint construction to enable opening flange implementation -> stability

- Adjustable position change of speaker, arm rest, etc
- Guide mark by car type

Adjusting belt lines

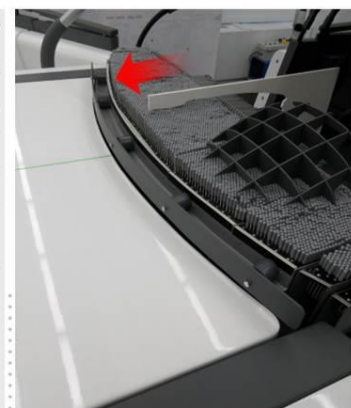


- Adjusting the belt line using the top of the door.

Adjusting belt lines for review and lateral field view



Cowl point adjustment



Adjust the position of the front view by adjusting the location of the cowl point







Layout

INT. DRIVER, 1870/L  
INT. PASSENGER, 370/L

CDWL, 240T, 890H

HP, 1275-1715, 1910H

HP, 1275-1715, 1910H

HP, 1275-1715, 1910H

FR WHL CTR, 29T, 30H

INTERIOR SPACE BUCK

HYUNDAI ADVANCED DESIGN TEAM



Layout

HYUNDAI ADVANCED DESIGN TEAM

