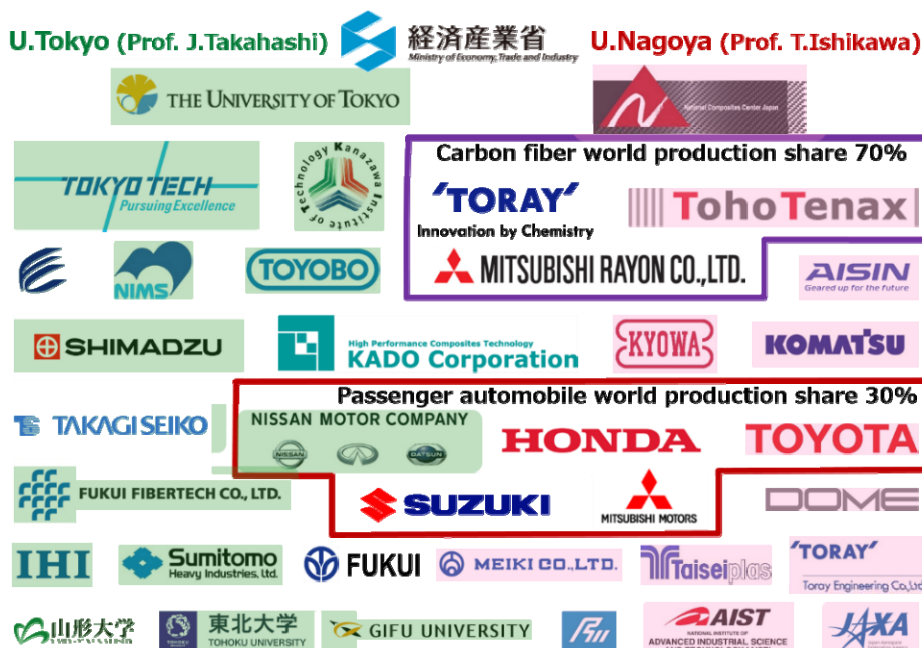
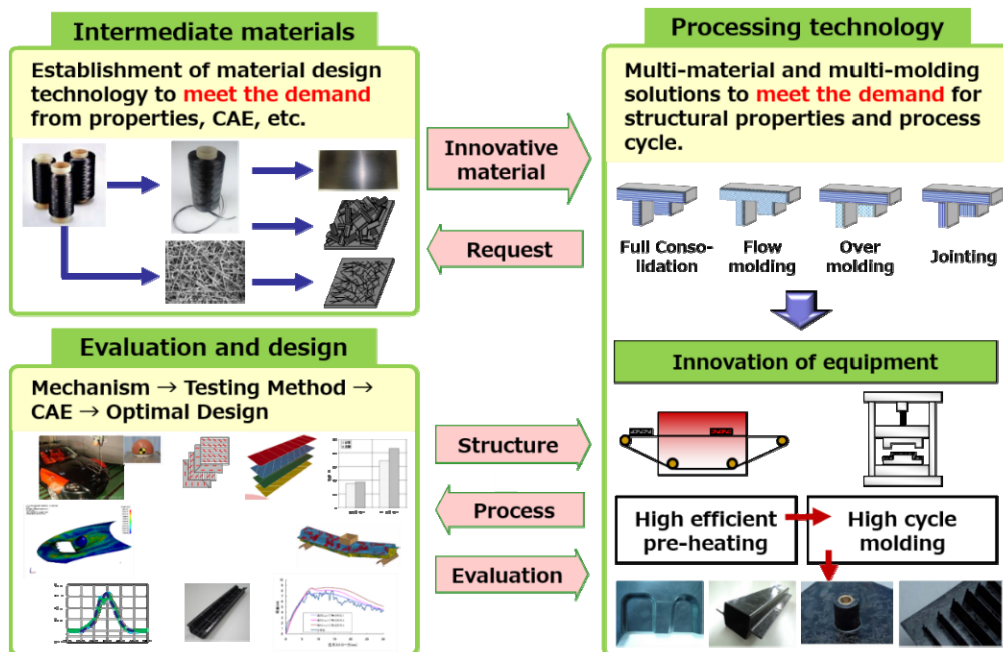


# Japanese CF RTP Project for Mass Production Automobile

## Group of The University of Tokyo, Japan

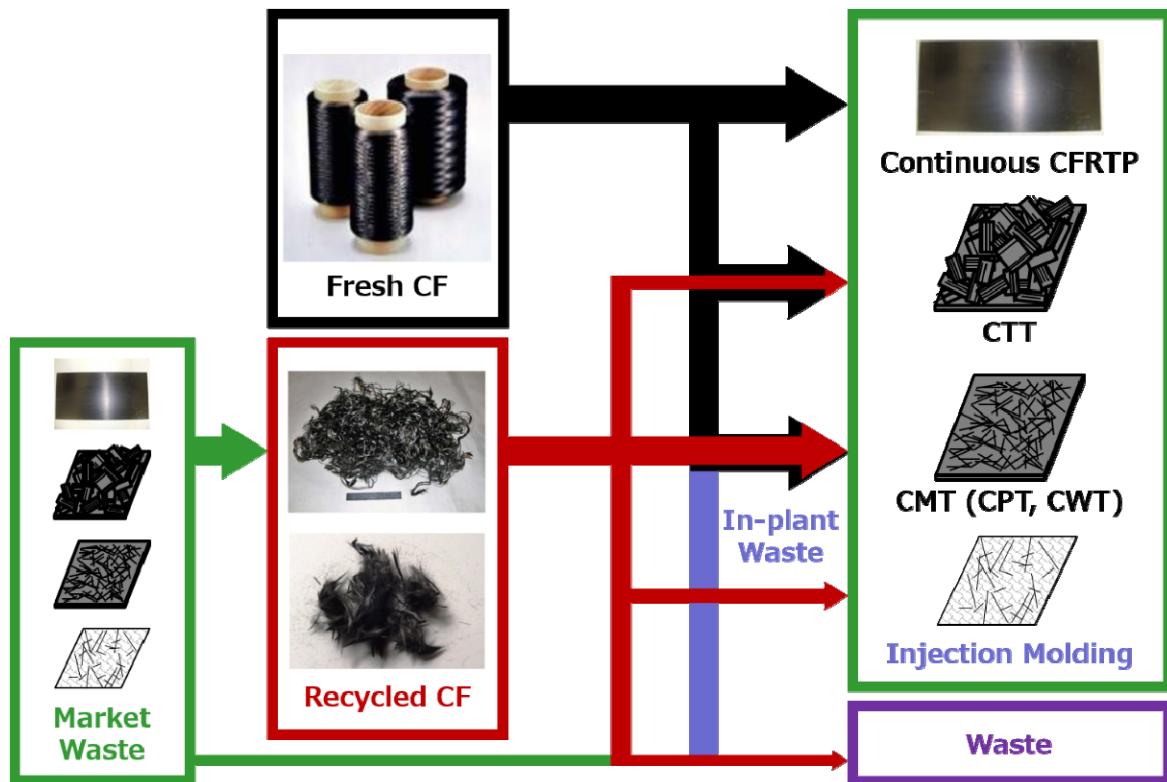
### OBJECTIVES

- ◆ Development of both technological and human infrastructure and network for the timely response to the future social demand.
- ◆ A large number of specialized WG make the eggs of innovation.
- ◆ Information exchange between WGs accelerate the innovation.



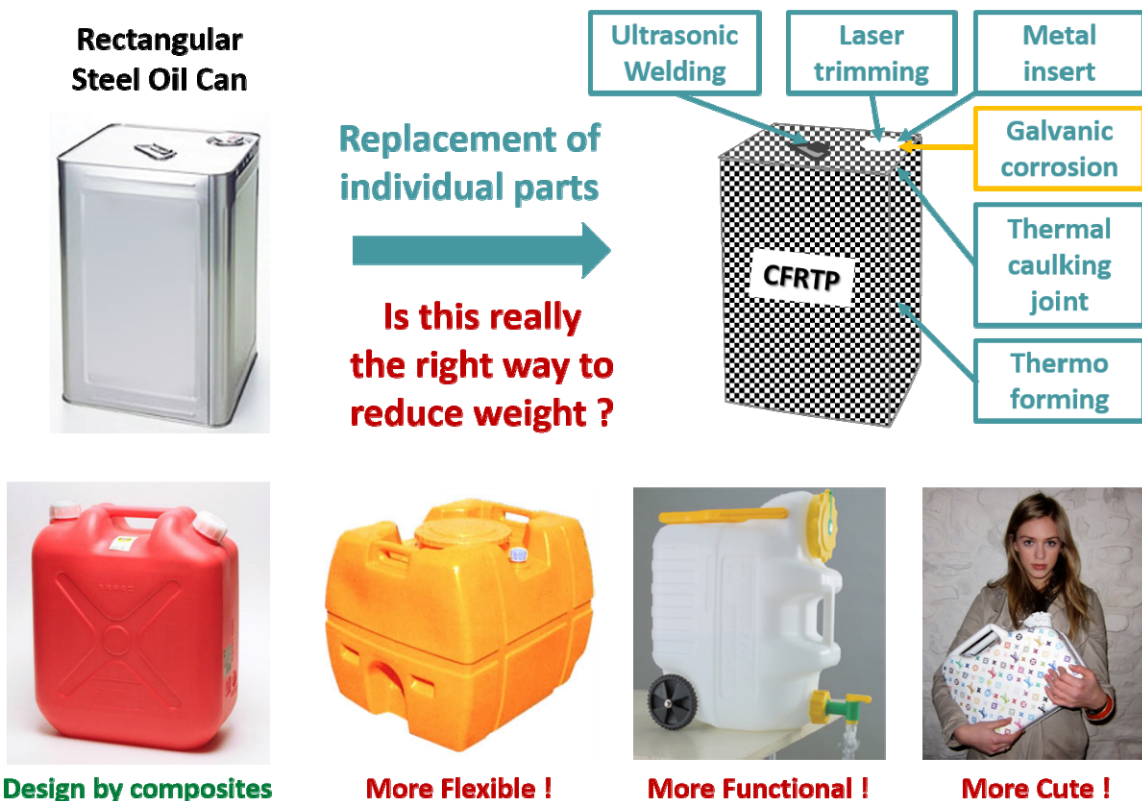
## WG of INTERMEDIATE MATERIALS

Aggressive use of discontinuous and recycled carbon fiber



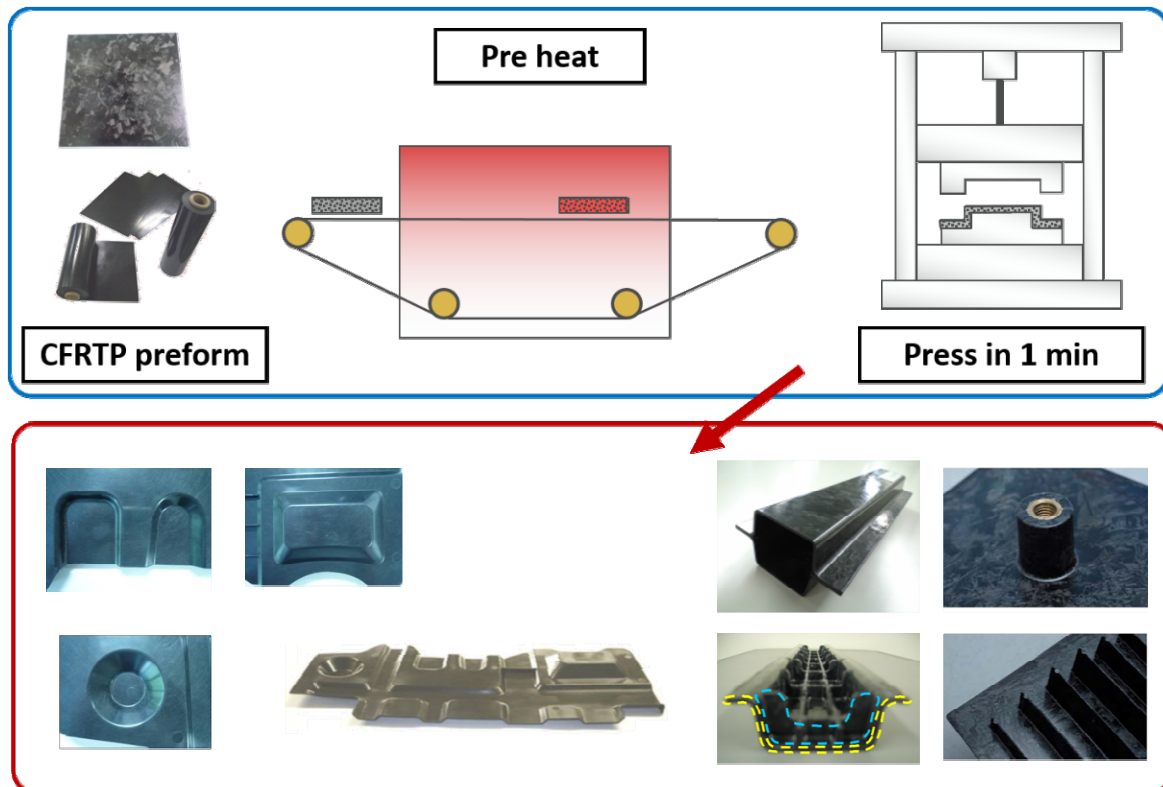
## WG of COMPOSITE DESIGN

Optimal design using the unique characteristics of intermediate materials



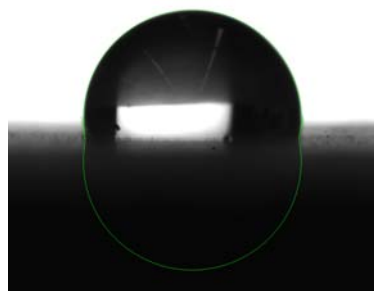
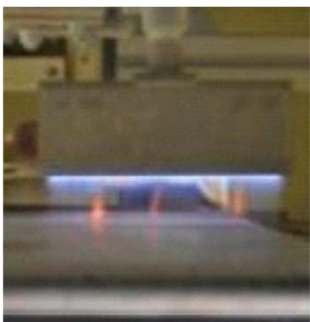
## WG of PROCESSING TECHNOLOGY

High cycle, Full impregnation, Lower pressure, Reproducibility, Automation

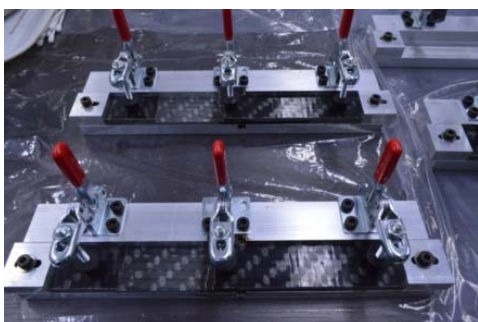


## WG of JOINING TECHNOLOGY

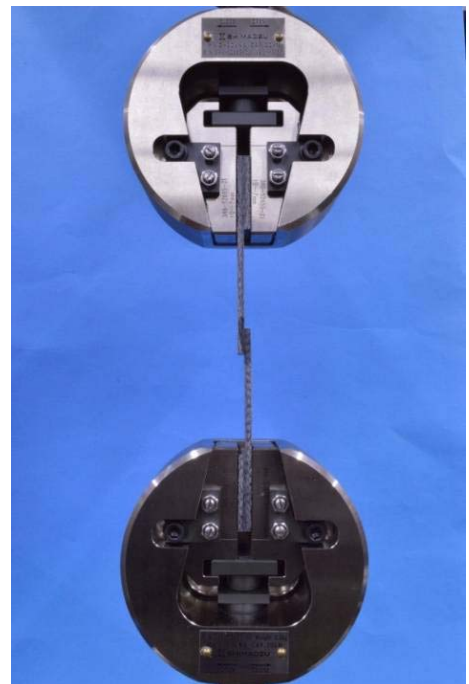
High strength, High cycle, Dissimilar materials joining, High durability



Surface treatment



Joining

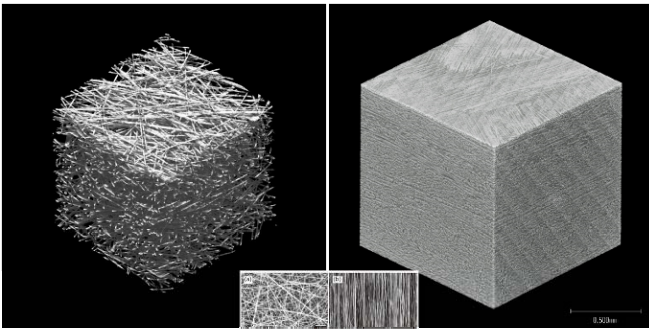


Evaluation



# A LA CARTE

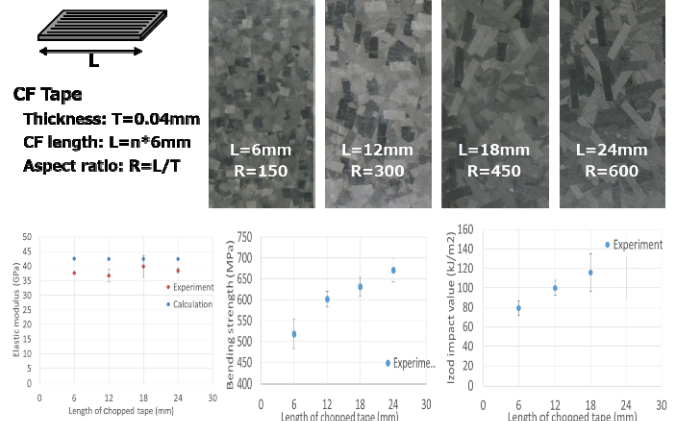
## Developed Discontinuous CFRTP



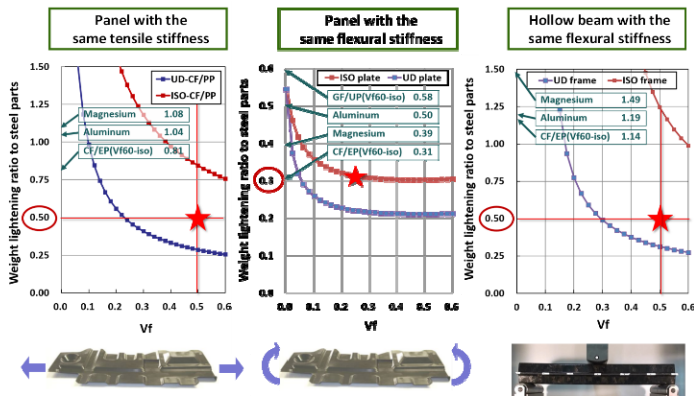
Carbon fiber mat reinforced thermoplastics CMT (In-plane isotropic) Carbon fiber tape reinforced thermoplastics CTT (In-plane isotropic)

Fibers are several times longer than critical fiber length and keep straight, hence shows very good mechanical properties.

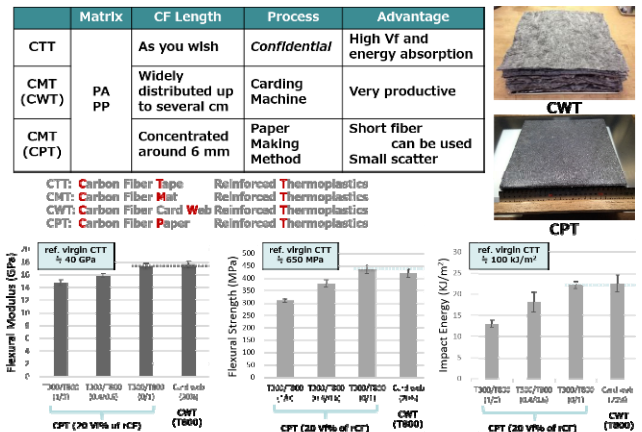
## Properties of CTT (PA6)



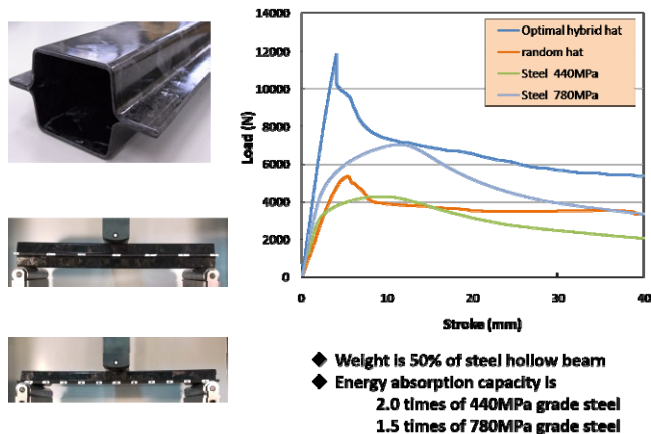
## Weight Lightening Ratio



## Properties of Recycled CMT (PA6)

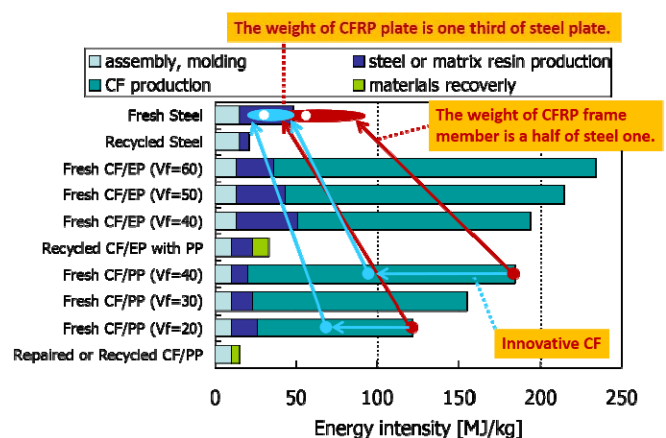


## Comparison of a hollow beam



◆ Weight is 50% of steel hollow beam  
◆ Energy absorption capacity is 2.0 times of 440MPa grade steel 1.5 times of 780MPa grade steel

## Energy Consumption till Parts



Contact: Project leader

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