Collaborative Research Center for Manufacturing Innovation

Usuki Lab.
Yanagimoto Lab.
Okabe, T, Lab.
Okabe, Y, Lab.
Hashimoto, A. Lab.
Tsuchiya Lab.
Mawatari Lab.

CMI
Institute of Industrial science
The University of Tokyo

https://www.cmi.iis.u-tokyo.ac.jp

A Creative Challenge for New Technology

CMI will produce progressive and innovative R&D of manufacturing, and contribute to rapid and high value manufacturing, environmentally conscious manufacturing, and manufacturing with minimum natural resources and a reduced amount of rare metals.

In order to resolve the common difficulties of aircraft manufacturing, we will carry out R&D of manufacturing; for example, machining technology of carbon fiber reinforced plastic (CFRP), which is one of the main materials in sustainable development. At this research center, we will not be limited to aircraft manufacturing technology, and will promote collaborative research of manufacturing in a broad sense.

◆Rapid and high value manufacturing

✓High rank, high efficiency, high speed machining technology, high accuracy measurement and high accuracy inspection technology of CFRP, titanium alloy and aluminum-lithium alloy.

✓Automation technology for high-mix low-volume production of aircraft structural parts

✓High quality cutting technology without the need for hand-finishing

◆Environmentally conscious manufacturing

✓Semi dry processing technology which has significantly cut electric power consumption

✓High efficiency manufacturing system which has minimized the emissions from the manufacturing processes

◆ Manufacturing with the minimum natural resources and less amount of rare metals

✓Forming technology for minimizing titanium alloy to be machined

✓Recycling technology of the chips of titanium alloy and aluminum-lithium alloy

✓Life extension of cutting tools, which contain a large quantity of rare metals such as tungsten, titanium, and cobalt