

### Background

- Great expectation to the introduction of Computer Assisted Engineering (CAE) thanks to high computer performance
- Urgent issue of the cost reduction with CAE due to the vast cost for aircraft development
- Strong request from the industry about the software that envisions the new aircraft development and its certification
- Global trends of systematization of CAE with universities

**⇒ Overtake the global trend for expansion of the aviation industry in Japan!!**

7 subjects based on the industrial demands

- (1) Development of the multi-disciplinary (aerodynamics, structure, strength) seamless aircraft design simulator
- (2) Price reduction of the certification process by the simulation invocation
- (3) Development and experimental verification of the aircraft structure design simulator utilized the characteristic of the composite
- (4) Development of Laminarization Technology
- (5) Development of VaRTM and Out of Clave Hybrid Co-cure Simulation
- (6) Development of CFD simulation technology for aero-engine combined with airframe and wing
- (7) High-fidelity numerical simulation of unsteady flows at non-cruise conditions

**⇒ Develop the software at the university and brush it up by the company inspection**

- Cost reduction, light weighting and shortening of the development period for the aircraft development by the advancement of above four CAE technologies
- Avoidance of the return work and reduction of the development cost and risk, which are difficult to be predicted by the conventional design method