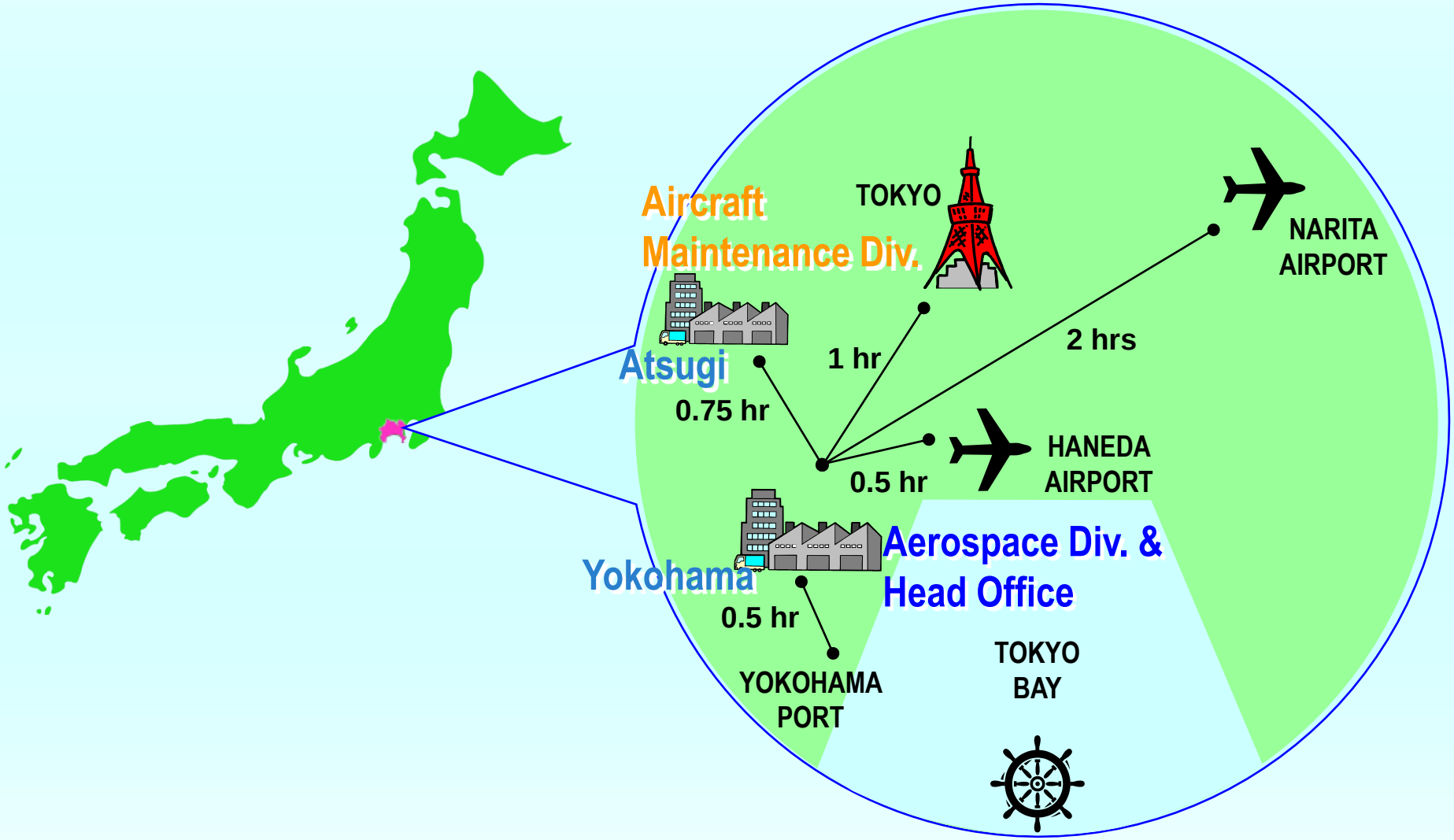
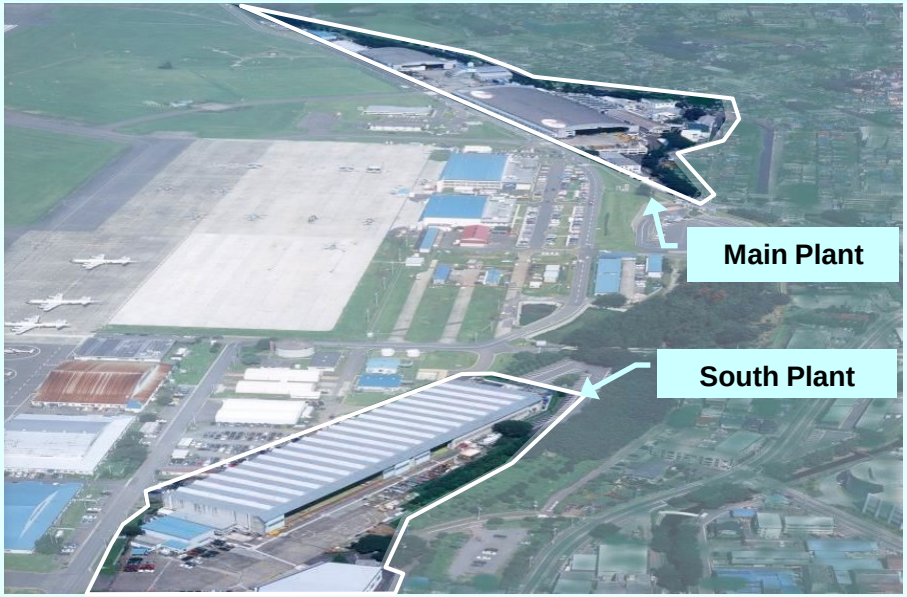
NIPPI Corporation

NIPPI


Aircraft
Maintenance Div.
TOKYO
NARITA
AIRPORT
Atsugi
1 hr
2 hrs
0.75 hr
HANEDA
AIRPORT
0.5 hr
Yokohama
Aerospace Div. &
Head Office
0.5 hr
YOKOHAMA
PORT
TOKYO
BAY

Plant Layout

- Aerospace Div. & Head Office: YOKOHAMA
- Aircraft Maintenance Div.: ATSUGI



R&D of NIPPI VaRTM

Targets

Cost: down 50 % + Weight: down 20 %

Concepts of Cost & Weight reductions

Suitable structure for composite

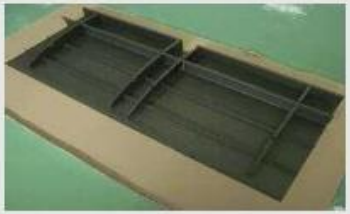
- Strength: No load concentration
- Manufacturing: Reduced assembly labor hour

→ Innovative parts layout
→ Fastener-less

= **One-piece**

Results

Flap



One-Piece Lwr Skin Assy.

- Cost: down 27%
- Weight: down 10%
- Parts count: down 71%

Winglet

- Cost: down 30%
- Weight: down 10%
- Parts count: down 47%

Spoiler

- Weight: down 23%
- Innovative parts layout

In-Spar Rib

- Cost: down 10%
- Weight: down 25%
- Innovative parts layout

VaRTM: Vacuum Assisted Resin Transfer Molding (An infusion process for making composite parts. Resin is drawn by vacuum into dry fiber preform in a mold. It is cured in heat under atmospheric pressure.

COILABLE MAST