

# Development of New Snow Removal Machinery

## - Automation of Working Equipment-

Développement de nouveaux engins de déneigement

- Automatisation des équipements -



### ■ Automate operations to reduce labor and enhance safety

<Background>

- Aging operators, shortage of personnel
- Decline in skilled operators (transfer of skilled operators' expertise)

### ■ Automated Machinery Utilizing the Quasi-Zenith Satellite "Michibiki"



Snowplow Truck



Rotary Snowplow



Snowplow Grader



Quasi-Zenith Satellite



Compact Snow Plower (Sidewalk Snow Removal)

### ■ Automation Concept for Rotary Snow Plows

Experienced Operator + Assistant

\*Red text: Changes made by automation

Operator + Automated Technology



Two-person crew



One-person crew

- Vehicle operation
- Equipment operation
- Awareness of own vehicle position
- Safety checks (other vehicles, forward obstacles)

- Vehicle operation
- Automatic Control of Equipment
- Tracking Your Vehicle's Location Using Satellite Information
- Safety verification using perimeter detection technology

Video

