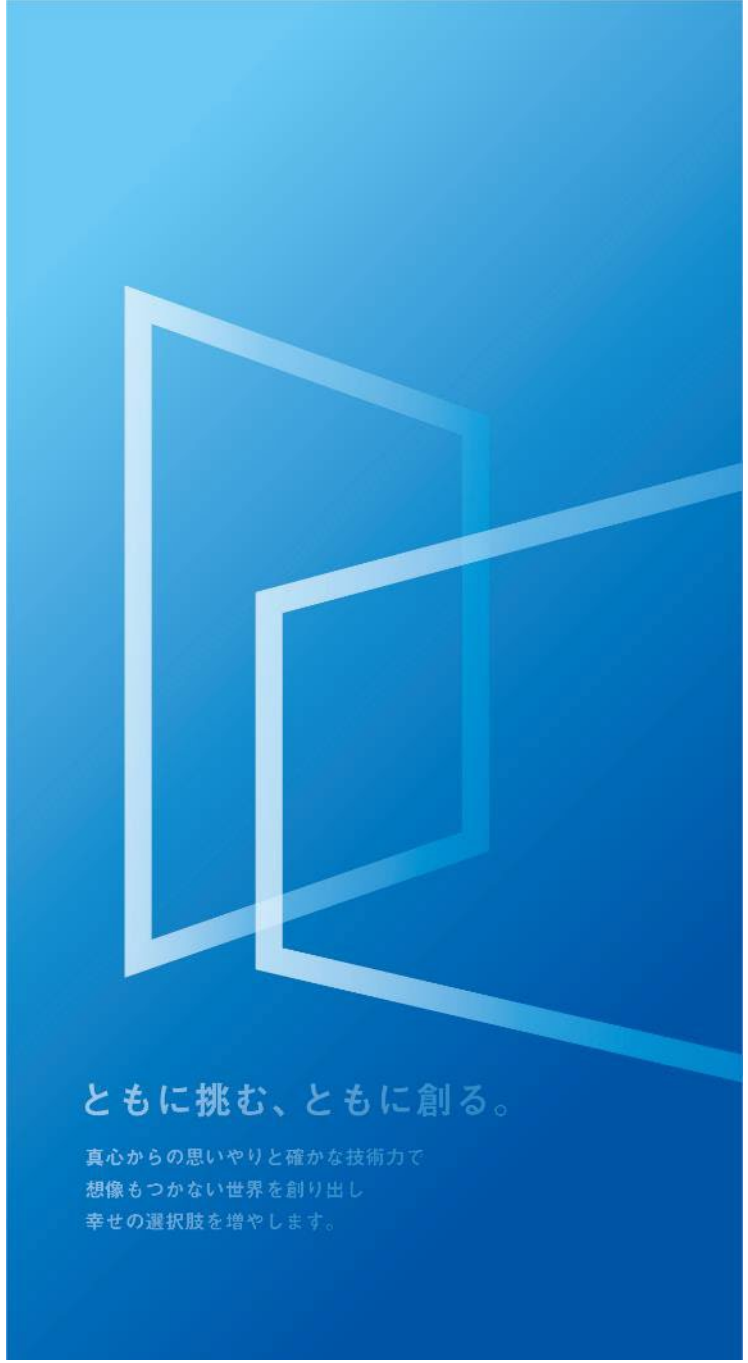
# Driving Agricultural Transformation with AWD and Digital Platforms

## ~DX/GX Strategies through the JCM Pilot Program~




7th December 2025

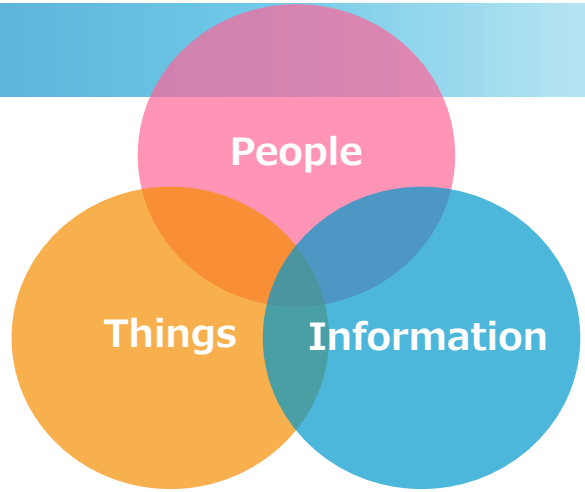
RYOBI SYSTEMS

# Ryobi Group

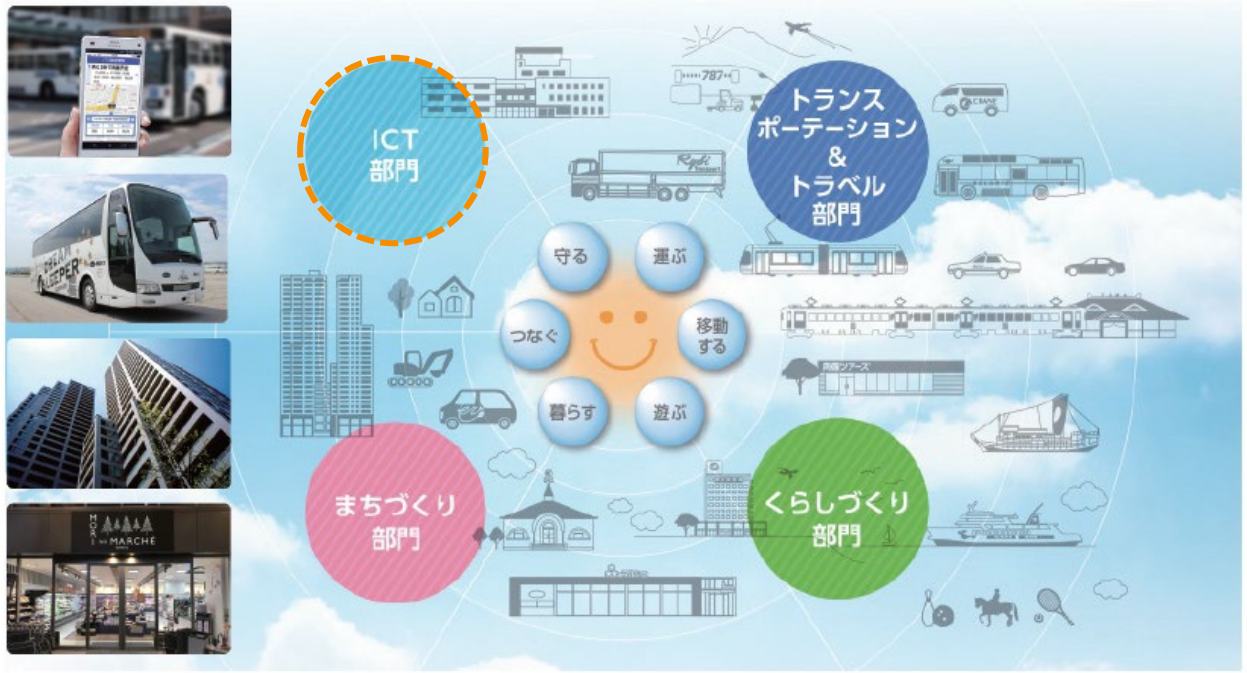
Established **1910**

Group Sales **USD 1.61 billion (FY2024)**

Employees: 8,764
Group Companies: 50 Over




“Transport **People**” “Transport **Things**” “Transport **Information**”
The Ryobi Group has developed businesses that specializes in transportation. We are involved in a variety of scenes in people's lives.




**Transportation & Tourism**

Bus, Railway, Taxi, Ferry, others

**Total Life Service**

Food service, Car Sales, Gas Station, others

**Urban Development**

Resident, Real Estate, others

**ICT**

**Culture & Social Contribution CSR Division**

Art museums, etc.

# Ryobi Systems' Strategy and Initiatives for Carbon Neutrality

**Driving GX (Green Transformation) for Sustainable Communities**

**Ryobi Systems aims to reduce GHG emissions by 51.2% by FY2030 (*)**

## Actions by Ryobi Systems

- Internal Engagement
  - Development of GX talent
  - Creation and distribution of employee training videos
- Creation of New Business
  - Expansion into Bangladesh
- Introduction of carbon credits
- Automation of decarbonization assessment

etc.

(Based on FY2020 Scope 1 and Scope 2 GHG emissions) *

# Our Past Initiatives

## Carbon Neutral Initiatives by Ryobi Systems and the Ryobi Group

**2023**
- Establishment of the Sustainability Division (Ryobi Group)
- Development of the Carbon Neutrality Business Plan (Ryobi Systems)
- Planning and Launching Decarbonization Projects in Bangladesh (Ryobi Systems)

**2024**
- Establishment of Carbon Neutrality Project Office (Ryobi Systems)
- POC for AWD during Aman Season in Bangladesh (Ryobi Systems)

**2025**
- **Launching Agricultural DX/GX Projects in Bangladesh (Ryobi Systems)**
- Revision of Business Plan (Ryobi Systems)

# Project Background

## Why AWD and Digital Platforms: GX and ICT Approaches Explained

**Bangladesh**

- The World's Third-Largest Rice Producer
- Favorable conditions with three annual cropping seasons
- AWD enables water conservation, increased yields, and GHG reduction

**Driving Sustainable Agriculture**

**&**

**Enhancing Farmers' Income**

RYOBI SYSTEMS

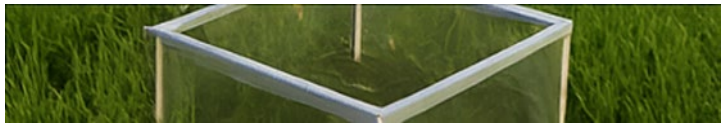
- Proven track record in Agricultural ICT
- Reliable data platform technology
- User-friendly, low-load UI/UX
- Strong capability for on-site data collection using photos, QR codes, GPS, and IoT

# Project Overview

| | Research Project | Small-Scale Pilot |
|---|---|---|
| **Period** | **March 2024 – December 2024**<br>*(one cropping season, trial implementation)* | **February 2025 – December 2025**<br>(three cropping seasons) |
| **Phases** | **Research** | **Demonstration (METI Subsidized Project)**<br>Supported by METI's Future-Oriented Global South Co-Creation Subsidy Program (Pilot Phase) |
| **Scale** | **AWD farming method on 4.5 ha** | **AWD farming method on total 5,694 ha** |
| **Measurement Items** | ● Agricultural Process Data :<br>Rice cultivation process from planting to harvest, sluice gate management, water level monitoring (numeric data & photos)<br>● Methane Gas Measurement Data :<br>Weekly measurements from planting to harvest | |
| **Evaluation Objectives** | 1）Assess potential yield improvement and farmer motivation based on agricultural process data<br>2）Measure AWD effectiveness per cropping season through methane gas data<br>3）Organize data required for carbon credit generation | |

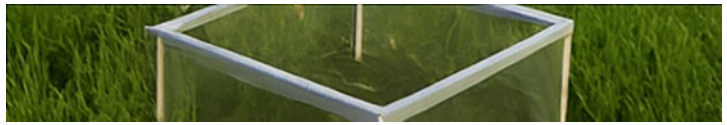
# Results of AWD

## Proven at Scale: Over 5,000 Hectares of Farmland



## Rice yields increased by up to 20%

## CH4 emissions were reduced by up to 40%



# Results of Monitoring

- ***High-quality and Tamper-resistant Data Capture***

  Reliable AWD monitoring data ensured through QR, photo, GPS, and full access logs.

- ***Verified Authenticity of Farmers and Fields***

  Each record is securely tied to the correct farmer and field via integrated evidence.

- ***Field-validated UI/UX for Smooth On-site Operations***

  Co-designed with field staff to ensure practical, high-usability workflows.

- ***Scalable Data Architecture for Large-scale Deployment***

  Platform design supports expansion to thousands–tens of thousands of fields.

# Digital MRV will drive AWD adoption and strengthen digital literacy in Bangladesh.