MITSUBISHI ELECTRIC
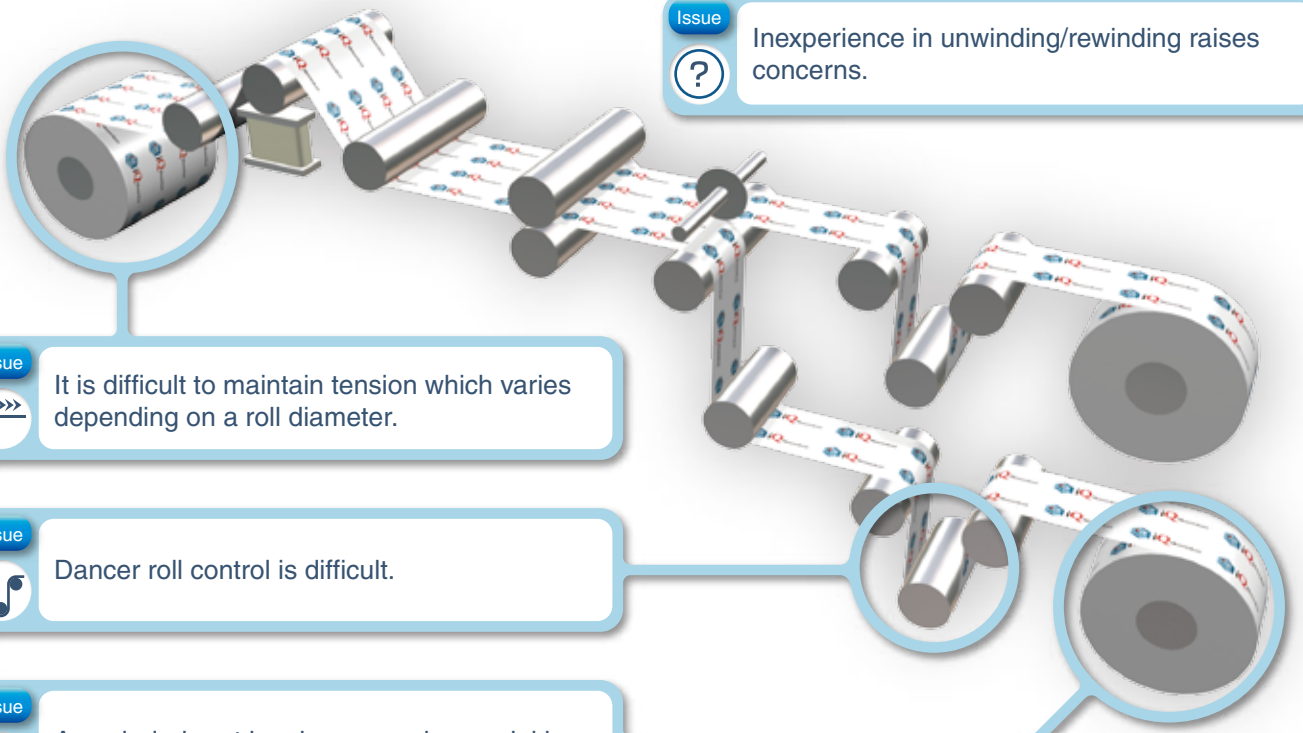*Changes for the Better*

FA Application Package
iQ Monozukuri CONVERTING

iQ Monozukuri

Strongly supporting development of converting systems with unwinder/rewinder control
Various functions speed up and facilitate system development.

Issue
Maintenance of a complicated program is troublesome.

Issue
Setting and management of many parameters are troublesome.

Issue
Inexperience in unwinding/rewinding raises concerns.

Issue
It is difficult to maintain tension which varies depending on a roll diameter.

Issue
Dancer roll control is difficult.

Issue
A rewinded part has issues such as wrinkles.

iQ Monozukuri CONVERTING solves the issues!

Issues on converting control can be solved!

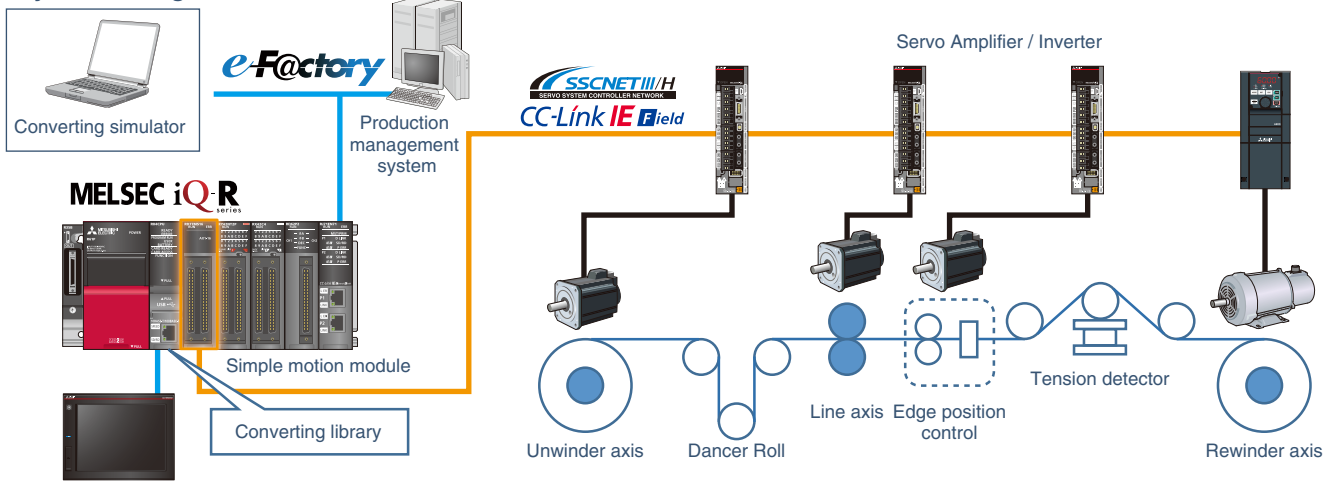iQ Monozukuri

Issue	Solution
Maintenance of a complicated program is troublesome.	Function blocks improve readability of the program.
Setting and management of many parameters are troublesome.	The GOT allows users to set necessary items without a personal computer.
Inexperience in unwinding/rewinding raises concern.	Standard functions for tension control are provided.
It is difficult to maintain tension which varies depending on a roll diameter.	The calculation function calculates the roll diameter.
Dancer roll control is difficult.	Tension gain auto tuning allows easy gain tuning. (Patent pending)
A rewinded part has problems such as wrinkles.	The edge position control function and taper tension calculation prevent winding wrinkles and twists.

Converting library (excerpted)

Item	Description	Item	Description
Tension control	Tension sensor feedback velocity control Dancer feedback velocity control Tension sensor feedback torque control Tension sensorless torque control	Roll diameter calculation	Velocity ratio method, Web thickness integration method, Feeding length method
		Additional function	Edge position control, Web break detection, Tension auto tuning, Cam generation for flat roll, Reel change
Velocity generator	Line velocity generator		

System Configuration

Converting simulator

Production management system

Servo Amplifier / Inverter

SSCNET III/H
SERVO SYSTEM CONTROLLER NETWORK
CC-Link IE Field

MELSEC iQ-R series

Simple motion module

Converting library

Unwinder axis Dancer Roll Line axis Edge position control Tension detector Rewinder axis

Products in the iQ Monozukuri CONVERTING package (AP20-CNV002AA-M☐)

Converting package DVD (converting library, GOT screen examples, program examples, manuals, and converting simulator) and a license certificate

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