

■ IS basic software / Basic software required to install IS.

Product name	Major functions
IS basic software	User definition / Facility definition / Component DB / Production program history management / Creating production programs / Line optimization *Intelli PE is included in this software.

Additional systems*1 / Software for expanded capabilities.

Product name	Major functions
Intelli PE system	Create production programs / Line optimization / CAD conversion (optional)
Intelli PD system	Download production programs to multiple lines / Line monitoring / On-demand production (optional)
Intelli PM system*2	Improve the operating rate of the entire floor / Factory status display / Performance calculation

■ IFS-NX basic software / Basic software required to install IFS-NX.

Product name	Major functions
IFS-NX software	Parts verification / Traceability (Option) / Component inventory control·Feeder location search / Off-line setup function / Management of feeder maintenance history (Option) / Handling the MSD component (Option) / Random feeder setup / Handling a circuit barcode (Option)

*1 When starting each function simultaneously on two or more PCs, the number of IFS-NXs must match the number of PCs being used.

*2 Some functions require Intelli PD system.

■ Major options

Product name	Corresponding software	Remarks
Flexline CAD	Intelli PE	CAD conversion
On-demand production	Intelli PD	Function to automatically change production programs according to barcodes on boards
Production banner	Intelli PM	Function to show production status on large display
Floor Activity Tracking*1	IFS-NX	Parts verification / component inventory control·Feeder location search / Random feeder setup
Traceability*1		Collection / search / display of traceability information / Handling a circuit barcode
Management of feeder maintenance history*1		Records and manages feeder maintenance and inspection history
MSD control*1	IFS-NX equipment	Prevents the unauthorized use of MSD components
Intelli feeder		Feeder with RFID recognition function
Intelli trolley		Feeder trolley with RFID recognition function
Intelli stocker		Feeder storage stocker with RFID recognition function
Intelli feeder calibration jig with monitor		Feeder calibration jig with RFID recognition function

*1 Licenses are necessary to add options to the IFS-NX.

■ IS compatible models

Series name	Corresponding models
KE series	KE-2010 / KE-2020 / KE-2030 / KE-2040 / KE-2050 / KE-2060 / KE-2050R / KE-2055R / KE-2060R / KE-2070 / KE-2080 / KE-2080R / KE-3010 / KE-3020 / KE-3020R / KE-3020V / KE-3020VR
FX series	FX-1 / FX-1R / FX-2 / FX-3 / FX-3R
CX series	CX-1
KD series (Dispenser)	KD-2077

■ IFS-NX compatible models

Series name	Corresponding models
KE series	KE-2050 / KE-2060 / KE-2050R / KE-2055R / KE-2060R / KE-1070 / KE-1080 / KE-2070 / KE-2080 / KE-2080R / KE-3020 / KE-3020R / KE-3010 / KE-3020V / KE-3020VR
FX series	FX-1R / FX-2 / FX-3 / FX-3R

*Please refer to the product specifications for details.

To use OS of the IS server and IFS-NX server, Windows Server 2003/2008, you must have Client Access License (CAL), an access right to access the server from devices such as PCs and/or mobile devices as well as the right to use the server. Windows is a registered trademark of Microsoft Corporation in the United States and other countries.



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The activities of research, development, design, sales, distribution, and maintenance services of industrial sewing machines, household sewing machines and industrial robots, etc., including sales and maintenance services of data entry systems.

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Floor productivity improvement support system

JUKI®



3E EVOLUTION

IS Intelligent Shopfloor Solutions

IFS-NX Intelligent Feeder System

IS/IFS-NX raises production preparation, scheduling, quality and monitoring to a new level by combining several related functions into one comprehensive software package. Additionally, the IS/IFS-NX provides users with the packaged software according to the occupational description. The IFS-NX can also achieve quality control by preventing improper component loading, traceability, etc., as well as increased efficiency at the time of production changeover to contribute to improvements in quality and working efficiency.



Operators
IS (Intelli PD)
● Download data to multiple lines

Operators
IFS-NX
● Parts verification
● Traceability
● Feeder location search
● Out of component warning and component inventory control

Plant manager
IS (Intelli PM)
● Production scheduling for entire factory
● Production status monitoring
● Production results summary and analysis

Equipment manager
IFS-NX
● Management of feeder maintenance history
● Feeder maintenance notification

Programming engineers
IS (Intelli PE)
● Production program creation
● Optimization and simulation for each line

IS Intelligent Shopfloor Solutions

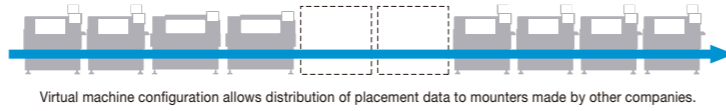
IS is comprised of three software functions within a single application. A client-server architecture connects the IS server to clients throughout the factory via Ethernet for factory wide control.

Intelli PE

Program Editor

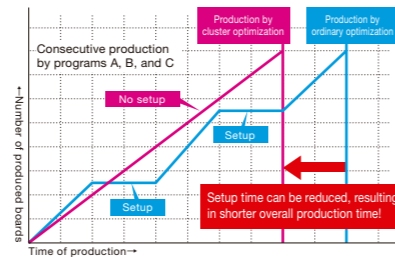
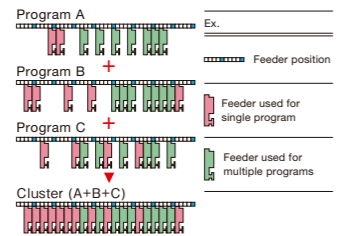
- Create production programs
- Line optimization
- CAD conversion (optional)

Intelli PE is used to create and optimize individual production programs. It is also possible to include "virtual machines" in the line to simulate machines from other manufacturers.



Cluster optimization

Cluster optimization groups several different production files together in a common feeder setup. It reduces changeover time by eliminating the need to setup feeders between jobs.



Flexline CAD

Option

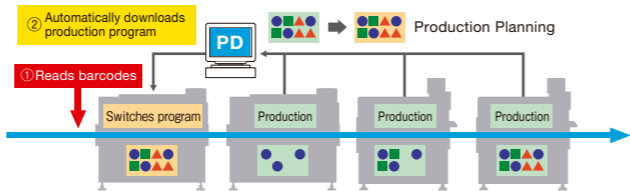
Data conversion system to convert text data files generated by CAD systems or output from other machines to JUKI data format. Users can choose from pre-defined input formats or define and save custom conversion formats.

Intelli PD

Program Downloader

- Download production programs to multiple lines
- Line monitoring
- On-demand production (optional)

Intelli PD downloads production programs made in Intelli PE to the production lines and uploads changes made at the machines. It can control multiple lines simultaneously and monitor the production status of each line.



On-demand production

Option

On-demand production enables the production line to automatically change between jobs by reading a barcode on the PCB prior to starting production. Production files are optimized into a single feeder setup. (All PCBs must be the same size.)

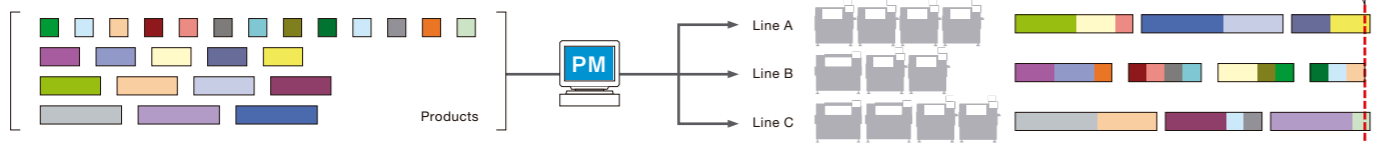
Intelli PM

Production Manager

- Improve the operating rate of the entire floor
- Factory status display
- Performance calculation

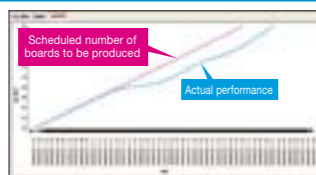
Intelli PM automatically makes a production schedule for the entire floor. The schedule is based on the production requirements vs. capabilities of each line on the floor as well as changeover. It is possible to specify various conditions such as due date for the job and component delivery dates.

Simulates line balance and estimated end time for optimal scheduling.



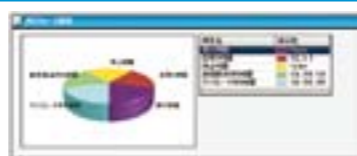
Production monitoring

Line status and real time production results can be monitored from any client PC. Problems can be identified and solved quickly.



Performance calculation

Production results are calculated and summarized graphically in pie or Gantt charts.



IFS-NX Intelligent Feeder System

The system uses 1- or 2-D barcodes, multi coded for quality control and improved setup time. Incorrect feeder placement can be prevented and traceability of component codes to each PCB is available. The system works either as a semiautomatic barcode method or as a fully automatic system using RFID tags attached to feeders and readers on the machine.

- Parts verification
- Traceability (Option)
- Component inventory control
- Feeder location search
- Off-line setup function
- Management of feeder maintenance history (Option)
- Handling the MSD component (Option)
- Random feeder setup
- Handling a circuit barcode (Option)

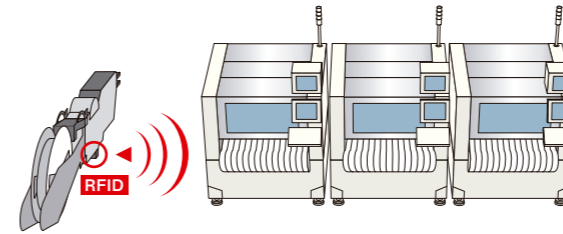


Parts verification

The parts verification function confirms that the correct part has been placed in the correct location on the feeder bank. An interlock prevents production until the parts are properly verified, thereby preventing defective boards from being assembled.

With RFID System

The location of every feeder is automatically detected when the feeder is placed on the machine. It helps the operator's efficiency and provides a double check of the location.

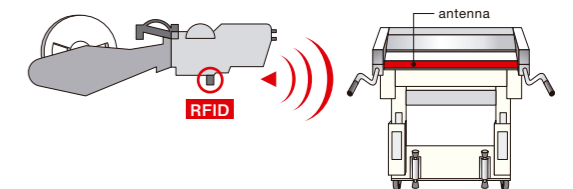


Off-line setup function

Off-line setup using feeder trolleys enables verification of component locations and prevents human errors.

With RFID System

The location of every feeder is automatically detected when the feeder is placed on the Intelli trolley. It helps the operator's efficiency and provides a double check of the location.



Random feeder setup

This function allows the user to attach the feeder to the bank at arbitrary positions to enable production. This also updates the pick data in the production program based on the position by assigning the feeder at random positions during offline setup.

With RFID System

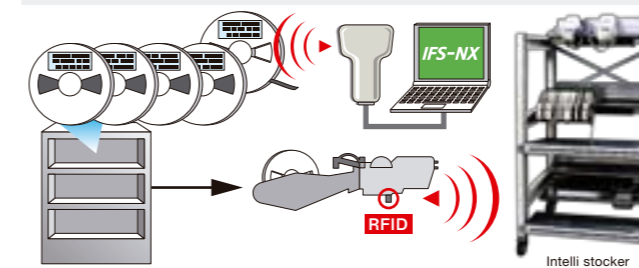
The RFID feature automatically recognizes random feeder setup positions.

Component inventory control

Components can be stored in registered locations to improve stock control and the component count is always maintained by the IFS-NX even during production.

With RFID System

The Intelli stocker (optional) shares the location for stored feeders with the entire system making it easier to find reels when you need them.



Traceability

Option

The component lot numbers can be recorded during production and linked to the serial number of the PCB they are placed on for a complete and accurate traceability record.

Handling a circuit barcode

Option

The IFS-NX helps to accumulate traceability information for every circuit by producing PWBs after reading each circuit barcode.

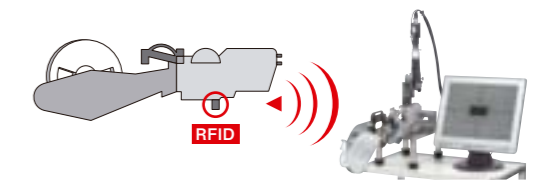
Management of feeder maintenance history

Option

IFS-NX records and manages feeder maintenance and inspection history. Maintenance schedules are created and warnings can be set based on actual usage including pick cycles, hours of operation and mispick rates. Helps to decrease bottlenecks and improves quality.

With RFID System

The Intelli feeder calibration jig (optional) automatically recognizes and records feeder IDs and the date when the feeders are inspected, decreasing the work and increasing accuracy for maintenance personnel.



Handling the MSD component

Option

The settings in the IFS-NX server prohibit the use of obsolete MSD components to prevent the unauthorized use of those components.

IS/IFS-NX Features

- **Consolidated management of information** Sharing information stored in the server. Prevention of defects caused by inaccurate communication.
- **Security** User registration allows operation privileges to be specified for each user group.
- **Versatile data format** Production files are saved in an open XML format for easy editing. Data can be transferred easily to other applications.
- **Easy operation**
 - User interface** Graphical operation screens that are standardized across applications.
 - Language change** Applicable languages include Japanese, English, Chinese, Korean, French, German, Portuguese and Spanish

