Jack Facebook

YouTube

2023.09

JACK TECHNOLOGY CO.,LTD

ADD:No.1008, Donghai Avenue East, Jiao jiang District, Taizhou City, Zhejiang Province, China
TEL:0086-576-88177782

E-mail: sales@chinajack.com
www.chinajack.com

JACK
World No.1

Jack Smart Screen Solution V1.6

Product Brochure

Development tendency and industry opportunity

The emergence of numerous buzzwords like "industry 4.0," "smart manufacturing," "IoT," etc. has demonstrated that the Chinese manufacturing sector is undergoing change at the same time as the notion of "smart manufacturing" is developing more deeply. With the aid of new technological innovations, things can alter and improve.

Currently, the need for transformation among medium and big garment firms has been increasingly fueled by the increase of production capacity, increase of scale, and conquer of difficulty in management. The first is to help improve corporate image, improve quality, and increase the quantity of orders. The second is that traditional production methods struggle to guarantee the stability of production quality. Moreover, production efficiency hits bottlenecks and unclear production processes. Theofore, we need the support of automated equipment.

When faced with major obstacles, the conventional clothing manufacturing sector is more likely to recover through technological and digital innovation, breaking the "old model" and bringing "new energy" to the sector. The complete adoption of automation equipment helps to improve production efficiency, reduce labor costs, improve technology, and fully optimize the production process. IoT, data warehousing, blockchain, and other technologies all contribute to the acceleration of the industrial and financial integration process. IoT enables management through intelligent software, timely progress capture, and production visualization.

Using Jack MES and other software in conjunction with basic data from sewing machines and hanging lines, a smart screen solution is created that has a system for easy operation, data gathering efficiency analysis, real-time production data viewing, etc. For modern large garment manufacturers, this is the best option.

Outdated infrastructure, complicated management, fragmented data, and slow intelligence development

Infrastructure

Problems that garment factories with less than 200 people often encounter —— Renovation in automation and lean production

- **Unplanned factory:** with a limited amount of space for installing large automation equipment; Low space utilization rate and low floor height prevent installing hanging system. The five-part layout includes a storage area for fabrics, accesssories, cutting, sewing, ironing, and sorting; packing is impractical, has weak interconnections, and requires a lot of time to transport.
- **Equipment with low automation:** Sewing equipment has little automation and relies on skilled workers to ensure quality, but finding skilled personnel takes time and money. Although there is automation equipment, the layout and number of devices do not make sense, and the production efficiency has not increased.
- **The process flow is illogical:** Sewing operations are not designed in accordance with each specific product model, and major rework conditions exist. The transportation costs are significant and the component processes are far away from the sewing line.
- **5S Disorganized management:** Various tools are not properly categorized and placed, not labeled, and cannot be handled visually. The equipment is also not cleaned up after use is complete, which can easily lead to equipment damage and delay the project time.

Digitalization platform

Problems faced by enterprises with more than 200 employees —— Data interconnected

- **Silo software system:** Each department designs, builds, and operates independently. The systems do not communicate with one another, and there is an issue with repeatedly setting up the software.
- **Lack of data analysis and processing tools and unintegrated data:** Make it difficult to effectively exploit data to assist accurate decision -making. Each system also has independent databases and inconsistent data standards.

Intelligent application

Problems faced by large-scale enterprises —— Intelligent upgrade

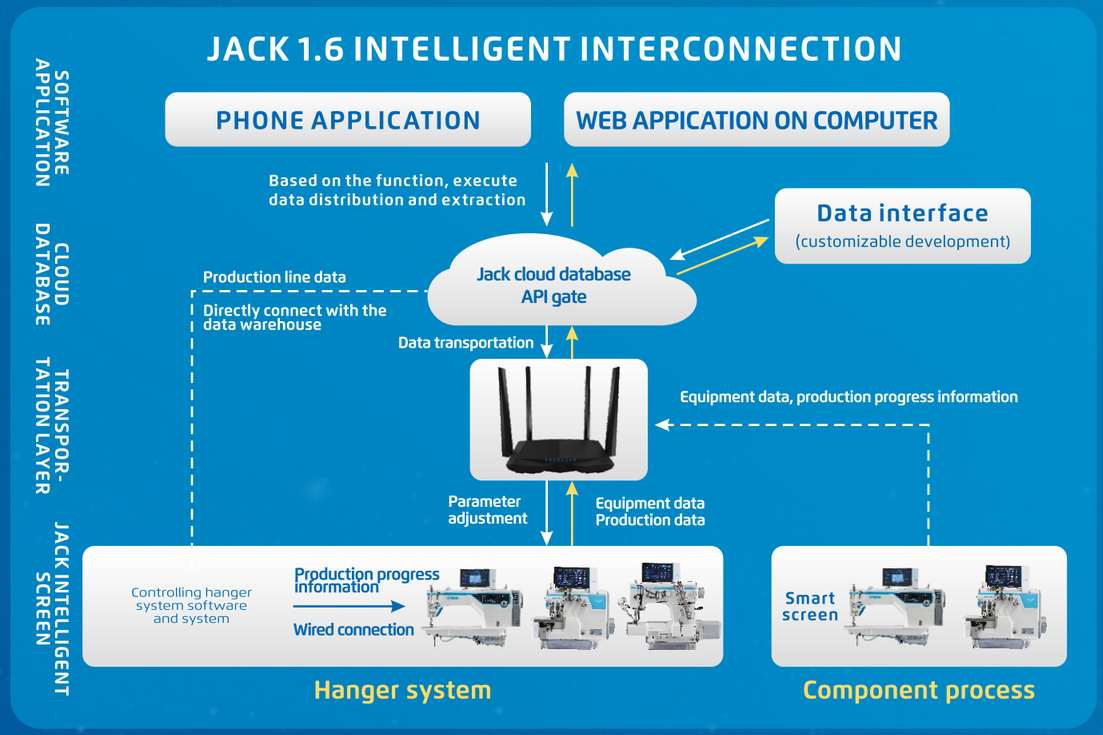
- **Less effective application system construction:** Insufficient business scenario coverage and ineffective management;
- Low level of intelligence: Although an application system exists, it is not sufficiently intelligent. It primarily focuses on business information, only performs one function, does not support algorithms, and does not achieve complete perception, wise decision-making, or automatic control.

Difficulties of garment factory

- Hard to boost effectiveness
- Hard to manage production progress
- Hard to manage product quality
- Hard to maintenance equipment

JACK INTELLIGENT SCREEN SOLUTION, INCREASE PRODUCT EFFICIENCY

- **Effective data acquisition for efficient analysis:** Automatically gather the actual working hours data for picking and placing seams and give clients production line efficiency analysis.
- **Real-time production data viewing:** helps managers spot errors more quickly and increases management effectiveness by opening up production data both inside and outside the hanging line.
- **Data-based quality control:** monitor the application of important process parameters, smart screen equipment parameters, and enhance sewing quality.
- **Intelligent equipment management:** One-button call, improve the efficiency of mechanic response. Matching multiple data-based boards to improve factory data-based image.



Smart Screen Solution

Intelligent Hanger System、IOT Smart Screen

Production Management

Hanger System

One screen to achieve the unification of three systems

For example: The factory is set at about 300 people.

Equipment: 8 hanger lines, 2 workshops, 4 hanger lines for each workshop, 24 sewing machines for each group +6 outside lines group for a total of 240 sewing machines.
Personnel: 1 factory director, 2 directors, 8 team leaders, 8 quality inspectors, 2 IE (including production scheduling and process scheduling), 1 clerk, 2 machine repairers.
Operation: working time: 10 hours per day, 28 days per month, each group average change style 3 times per month, each group stable daily output 800-1000 pieces.
Salary: Factory director, IE average salary 12000 CNY/month, Workshop director average salary 10000 CNY/month, Group leader, Quality inspection, Clerical average salary 6000CNY/month, Machine maintenance average salary 8000CNY/month.

Factory director	Office head	Working time IE	Group leader	Machinist	Sewing operator
15%	40%	43%	2.3%	5.5%	0.8%
Save 1.5h inspection time every day	Save 4h inspection time every day	Save 120h of watch measurement time every month	Save 2.3h/ month output proofreading time 1 hour searching for machinist/ month to reduce the repair time of 3.3 hours	1.5 hours Data search time/month Reduce the equipment |searching time by 0.5h/ day	Reduce the repair time by 1h Reduce maintenance waiting time by 0.5h Reduce style change debugging time 0.25h Reduce the statistical output time by 0.1h

Jack Smart Screen human-computer interaction

High efficiency Analysed data

Automatically gather data on actual picking, sewing, and hanging times, and offer customers digital solutions for effective production line analysis.

Examine production data More convenient

Connecting the hanger line's production data, giving managers easy access to production statistics. Recognizing unusual issues, concentrating on tasks, and enhancing management effectiveness.

Digitalized quality management

Intelligent screen equipment parameter, monitor related process parameter to increase sewing efficiency.

Smart equipment management

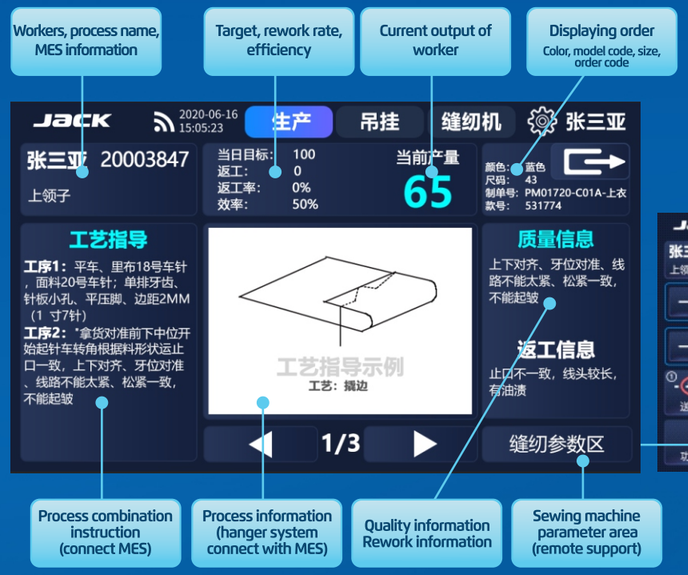
Reminding text will appear on the big screen, easy to operate; enhances feedback time of mechanics. Smart screen monitors production and factory's images.

Human - machine interacting hanging system

Sewing machines and hanger system - integration between information and logistics flow

Open API gate of MES system

Production management support



Process and sewing equipment parameter interconnected
Support remote distribution of MES gate
Reduce the time for training and order modification.

Input, distribute and adjust information like the distance of needle, speed, locus and process parameter to process warehouse.

Intelligent Sample Room Working Hour System

Autonomous time measurement, dynamic interaction

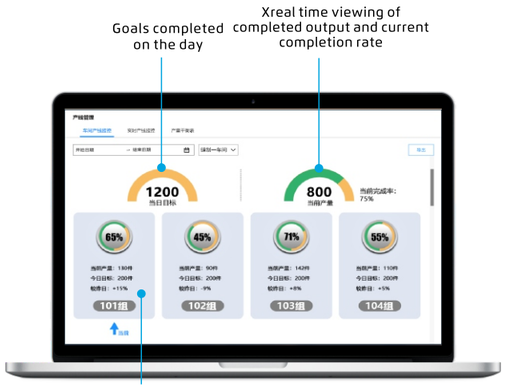
1. Simple interface, clearly displaying work order information, and quickly creating process table;
2. Convenient work hour statistics, support external beat button, time measurement by process;
3. Rich function area, one-key call mechanic/management, record the difficult and abnormal points.

Smart Screen Application Solution (PC)

» Visualization of output report

Real-time monitoring of output data, automatic collection and analysis,
reduce the waiting time for statistics.

Manual output statistics,
time-consuming and laborious.

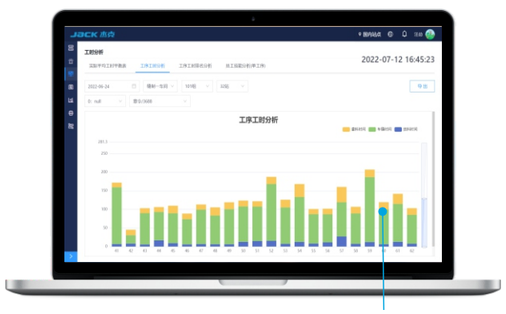


Can view the target and current output of the group, and automatically analyze the comparison with yesterday's work efficiency.

» Accurate man hour disassembly record and clear IE analysis

Accurately check the GST(Garment Standard Time), reasonably allocate the process,
and provide the basis for the process balance

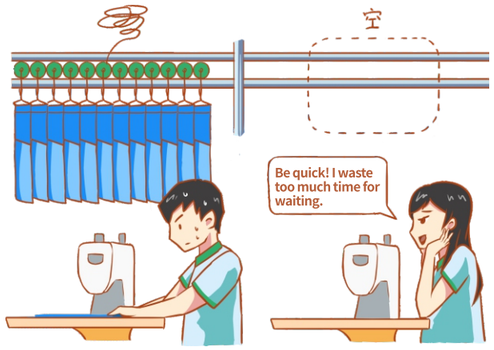
Traditional watch check,
setting standard time



It can automatically collect the actual time of holding, sewing and releasing accurately without IE pinch meter, calculate the optimal actual working hours, and provide data basis for optimizing balance.

» Identify the bottleneck process and improve the balance rate of the production line

When meet production bottlenecks, and work is stagnant,can intervene
in time to reduce the time wasted.



Congestion occurs on the sewing station

Refers to the working time of each process

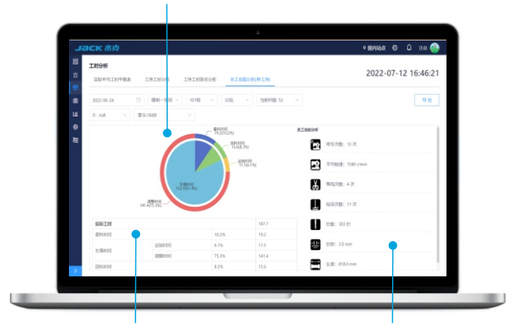
Quickly identify the causes of production line congestion, reasonably arrange the production plan, and improve the profit rate of the production line

Production line balance measurement and capacity calculation of a factory

» Worker skill assessment, with evidence to follow

According to the optimal action data standard, reduce ineffective
actions, improve efficiency and quality of employees

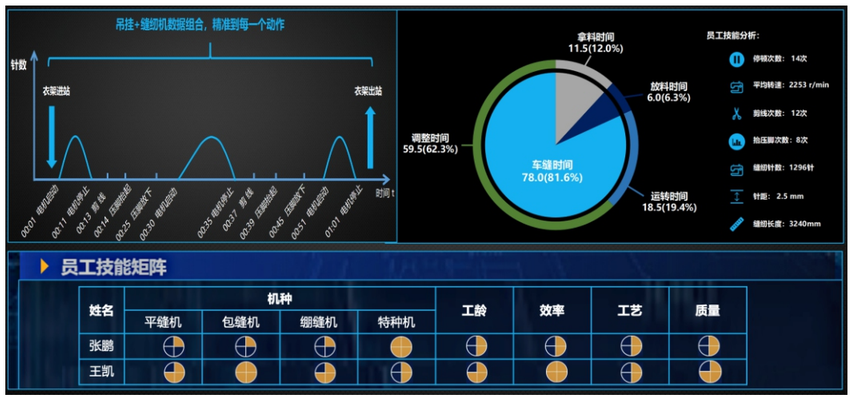
Proportion of cutting pieces handling and sewing in the process



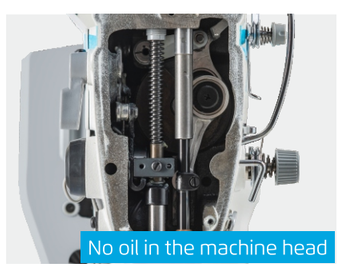
Check the time for handling and sewing of cutting pieces, and get the time for completing the process

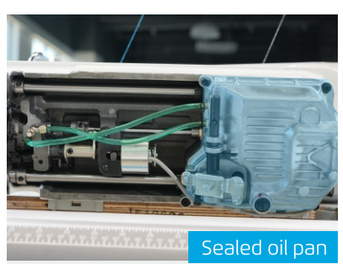
Match the data of the sewing machine with the situation of employees

A60+ Intelligent Iot Lockstitch Machine



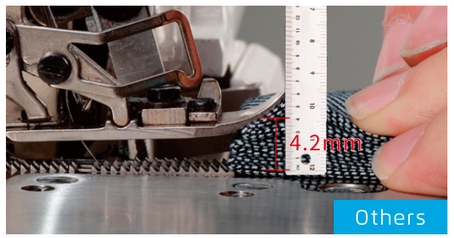
Real-time update of GST standard working hours, real-time assessment of employee skills

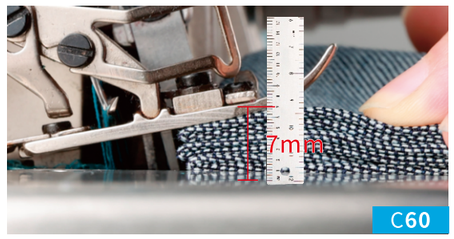




Clean sewing, no pollution

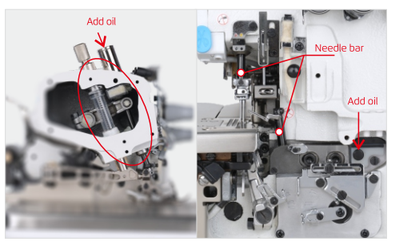
C60+ Intelligent Iot Overlock Machine





Large feeding space, not scraping material

Automatically adjust to fit with the thickness of fabric, change to corresponding sewing model



No oil no worry, clean and durable

K60+ Intelligent Iot Interlock Machine

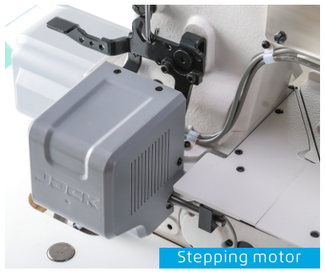
Technical parameter

Model	Needle	Thread No.	Stitch Length (mm)	Presser Foot Lifting Height (mm)	Max. Speed (s.p.m)	A	M	H	Volume (mm)	Weight (kg)
A60+	DB×1 11-18#	2	5	1-12	5000	√	√		690×295×550	41.5/48.5
A60+-N	DB×1 11-18#	2	5	1-12	5000	√	√		690×295×550	41.5/48.5

Technical parameter

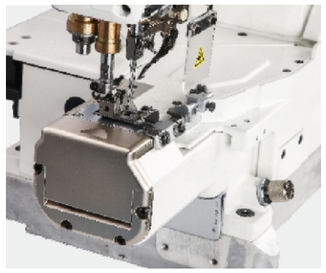
Model	Needle	Needle No.	Thread No.	Needle Distance (mm)	Stitch Width (mm)	Stitch Length (mm)	Differential Ratio	Presser Foot Lifting Height (mm)	Max. Speed (s.p.m)	Volume (mm)	Weight (kg)
C60+-3-02/233/KS	10#	1	3	/	4	0.8-3.8	0.7-2	7	6500	515x360x610	33/41
C60+-4-M03/333/KS	10#	2	4	2	2X4	0.8-3.8	0.7-2	7	6500	515x360x610	33/41
C60+-4-M03/333/AT	10#	2	4	2	2X4	0.8-3.8	0.7-2	7	6500	515x360x610	33/41
C60+-5-03/233/KH	11#	2	5	5	5X5	0.8-3.8	0.7-2	5	6500	515x360x610	33/41
C60+-5-03/233/AT	11#	2	5	5	5X5	0.8-3.8	0.7-2	5	6500	515x360x610	33/41
C60+-5-03/333/KH	11#	2	5	3	3X4	0.8-3.8	0.7-2	5	6500	515x360x610	33/41
C60+-5-03/333/AT	11#	2	5	3	3X4	0.8-3.8	0.7-2	5	6500	515x360x610	33/41

Note: KS: Side suction trimming; KH: Cross suction trimming; AT: Hacking knife trimming

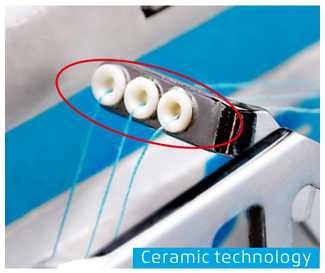


Stepping motor, cutting thread faster

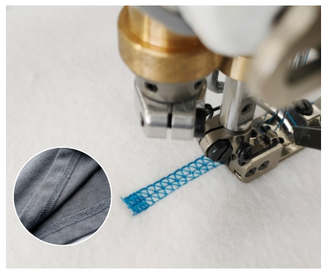
Thin elastic fabric does not wrinkle, smooth sewing though thick fabric



Diamond flat-bed head, bottom hem easy sewing and convenient



Ceramic needle threader, sewing stitches are even



Thread tail blockage, water washing does not take off the thread

Technical parameter

Model	Needle	Needle No.	Thread No.	Needle Distance (mm)	Stitch Width (mm)	Differential Ratio	Presser Foot Lifting Height (mm)	Max. Speed (s.p.m)	Stepping device	Upper decorative thread	Trimming	Volume (mm)	Weight (kg)
K60+-UT-01GB(Basic sewing)	11#/14#	3	5	1.5-4.5	5.6/6.4	0.6-1.8	9	6200	√	√	√	675*450*602	48/58
K60+-UT-35AC(Left cutter)	11#/14#	3	5	1.5-4.5	5.6/6.4	0.6-1.8	9	5500	√	√	√	675*450*720	52/65
K60+-UT-01GB/PL-S2(Back puller)	11#/14#	3	5	1.5-4.5	5.6/6.4	0.6-1.8	9	6200	√	√	√	675*450*602	48/58
K60+-UT-01GB/HG(Automatic hem folding)	11#/14#	3	5	1.5-4.5	5.6/6.4	0.6-1.8	9	6200	√	√	√	675*450*602	48/58

RUIHUA GROUP
Intelligent Garment Project

Project background

Qingdao Ruihua Group is a garment enterprise mainly engaged in the production and sales of children's wear, woven, printing and dyeing, denim, knitted garments and international trade service activities, their products are mainly sold to Europe, America, Japan and Southeast Asia, etc.. However, with the development of small batch and personalized orders, the company strives to achieve flexible and fast production, and realize the digitization of production, sales and research to open up.

Customer needs

To achieve enterprise-wide data interoperability, data transparency and real-time, reduce labor and other costs, and improve production efficiency.

Solution

Jack assisted Ruihua Group to completely renovate its production workshops and warehouses, and invested in 2 sets of IOT cutting and spreading machines, 12 IOT intelligent hanging production lines, more than 60 IOT template machines and automated sewing machines. At the same time, and invested many AGV logistics vehicles to automatically shuttle through the fabric and accessories warehouse, cutting piece supermarket and sewing workshop, and added automatic sorting and automatic packing systems.

Customer benefits

Through the cooperation with Jack, Ruihua has transformed the traditional production workshop into a more efficient and intelligent digital workshop. By integrating the Internet, IOT and other information technology into the mass production, the whole process from order placement to packing and IM-warehousing can be monitored and understood in real time. they realize the intercommunication of different data on the assembly line, and the synchronization of the information and physical objects of each order and material plan to each department, so as to ensure that each department will not stop working and waiting for material, make flexible and personalized products, and truly realize the whole chain of logistics and information flow of the five modules: fabric and auxiliary material warehouse, cutting center, sewing center, finishing and sorting center, and finished products warehouse.

KeQi Suzhou
Smart Factory Project

Project background

Keji fashion (Suzhou) Co., Ltd. is a clothing enterprise that designs, develops and produces world-famous brand contemporary sports series, needle and shuttle knitted golf shirts and leisure knitting series. The company mainly designs and manufactures world-class sports brands such as Fila (Italy), Disante (Japan) and Kehong (Korea), and maintains good cooperative relations with many well-known clothing enterprises and brands at home and abroad. In order to better provide services and property support for customers, Keji fashion has launched an "upgrade" plan. They hope to realize the interconnection of property equipment through automation equipment, digital technology and application software, so as to promote the continuous development of Keji fashion.

Realized Function

To customize a complete solutions for Keji fashion, use of automation equipment, digital technology and application software, to achieve production equipment connectivity, through the lean + digital two-wheel drive, improve the efficiency of the whole production system, reduce the cost, Assist Keji fashion quickly build a modern, digital and intelligent sample factory.

Customer requirements

In the traditional production mode, it is difficult to effectively get through all links of production, which causes great obstacles to the small batch and high-quality flexible production of Keji, and restricts the development of enterprises.

Solution

Overthrowing the original traditional production line, with Jack to create a new whole process intelligent production workshop, improve small batch, high quality, flexible production capacity. Through the whole production process data of Intelligent Fabric Inspection machine, Intelligent cutting room, AGV intelligent logistics, Intelligent hanger System, PTL,WMS, MES, real-time grasp the production data.