

MT-LINK*i* 介紹

FANUC CNC



FANUC ROBOT



年代	控制器	PCMCIA	內藏網路	高速網卡	RS-232C	I/O
1985 ↓ 2020	0					○
	15				○	○
	16/18/20/21				○	○
	16i/18i/20i/21i-A			○	○	○
	16i/18i/20i/21i-B	○	○	○	○	○
	0i-A				○	○
	0i-B/C/D/F	○	○	○	○	○
	30i/31i/32i/35i	○	○	○	○	○

舊設備Solution

判斷機械狀態→須修改I/O線路

判斷機械加工程式/其他變數等→須預留RS-232C/修改程式





SIEMENS

DMG MORI

CITIZEN



rexroth



Mazak

LOKUMA

CITIZEN



num

可視化



全廠監視

可視化

全廠監視

Menu


Full Screen

11:59:57

There are alarms (1 items)

CNC_432


Detailed


EMERGENCY

Disconnect CNC_432	off
Mode CNC_432	EDIT
P1	
Executing program	/PATH1/SAMPLE
CNC_432 P1	
The number of machined parts	952
CNC_432 P1	
EMERGENCY	

CNC_Simulator


Detailed


ALARM

Disconnect CNC_Simulator	off
Mode CNC_Simulator	MEMORY
P1	
Executing program	TH1/FANUCLOGO
CNC_Simulator P1	
The number of machined parts	0
CNC_Simulator P1	
EMERGENCY	

NCGuide

Detailed


EMERGENCY

Disconnect NCGuide	off
Mode NCGuide	MEMORY
P1	
Executing program	ER/PATH1/O1000
NCGuide P1	
The number of machined parts	1
NCGuide P1	
EMERGENCY	

1

13:08:11

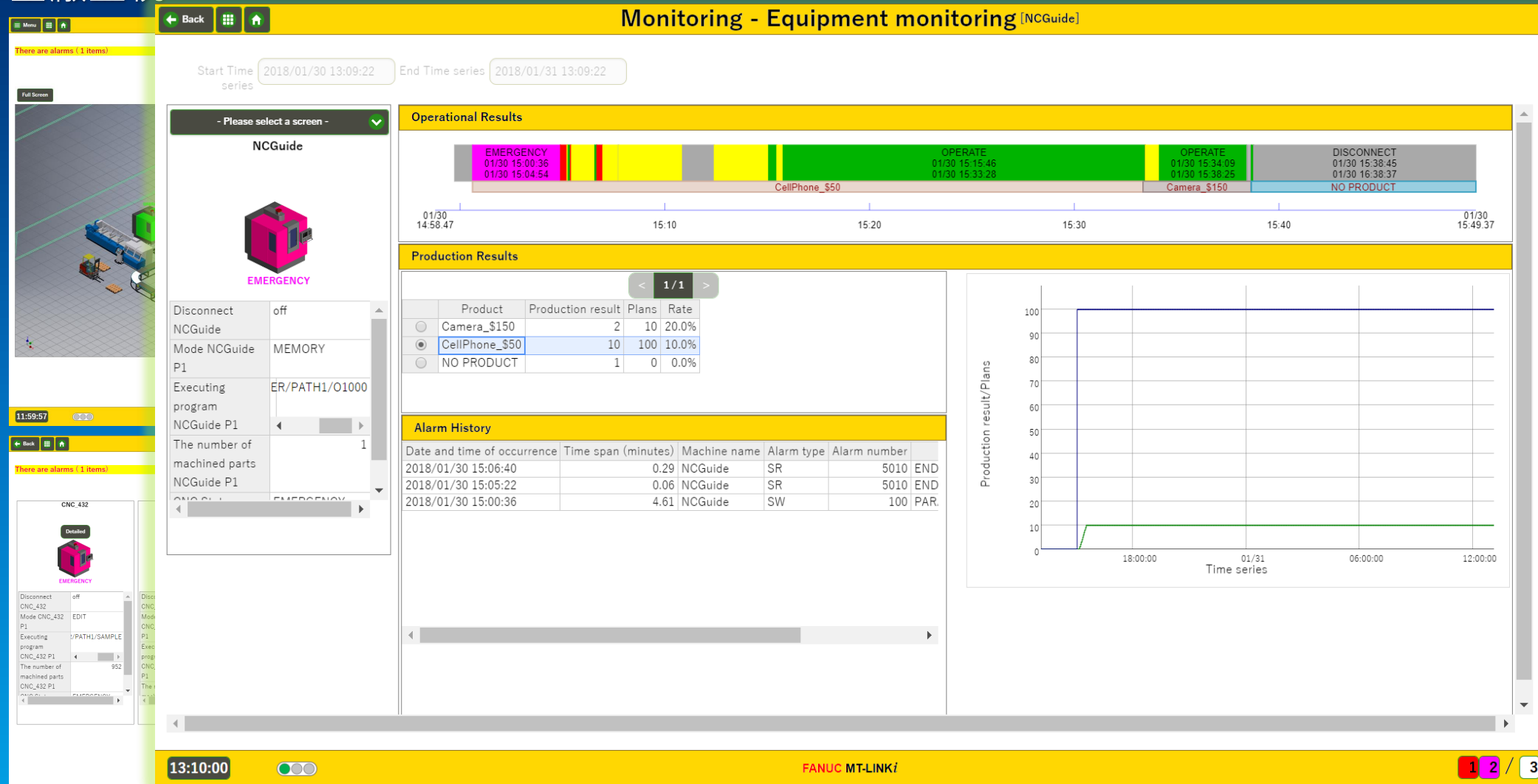
FANUC MT-LINK7

1 2 / 3

生產線監視

可視化

全廠監視



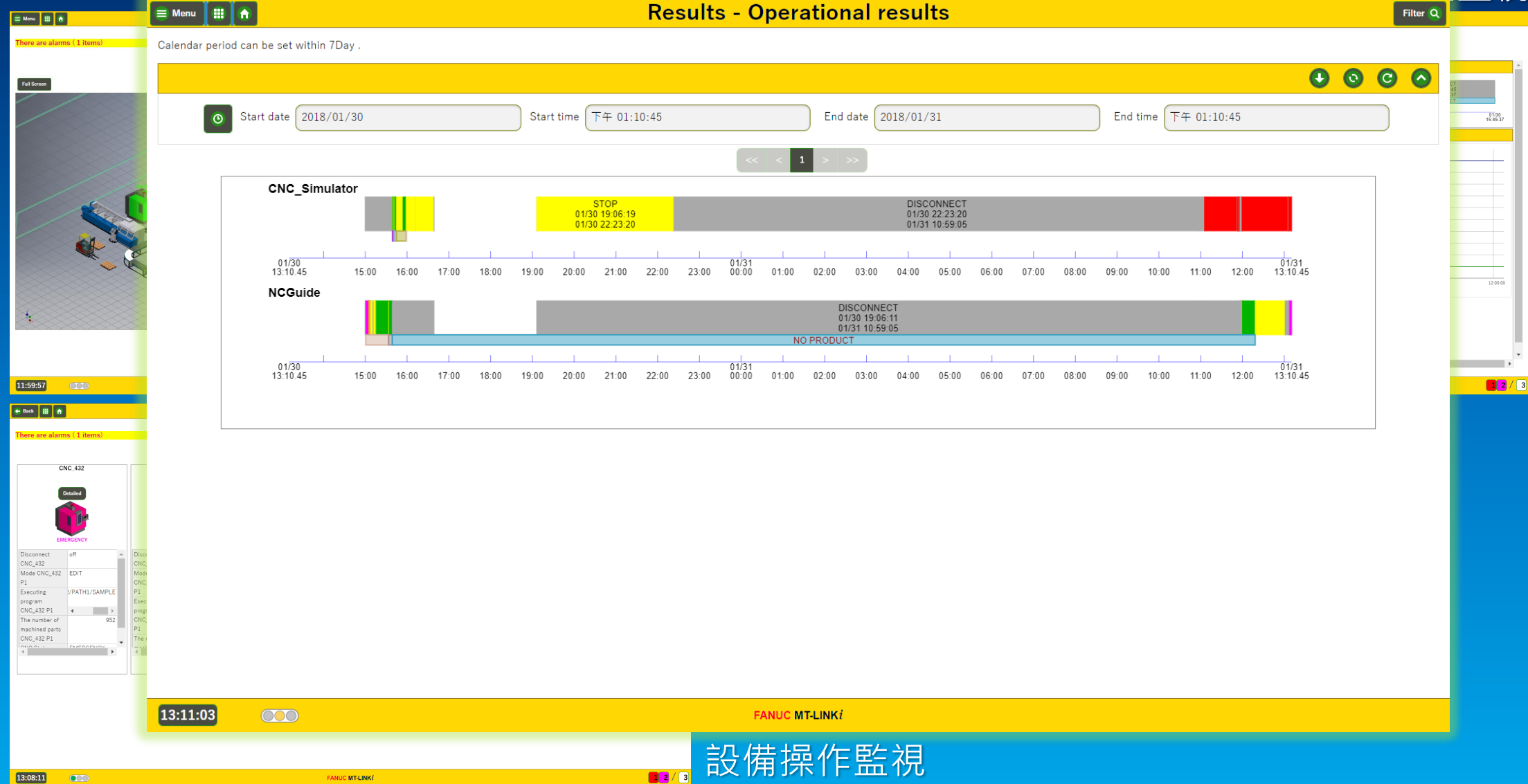
設備監視/生產監視

生產線監視

可視化

全廠監視

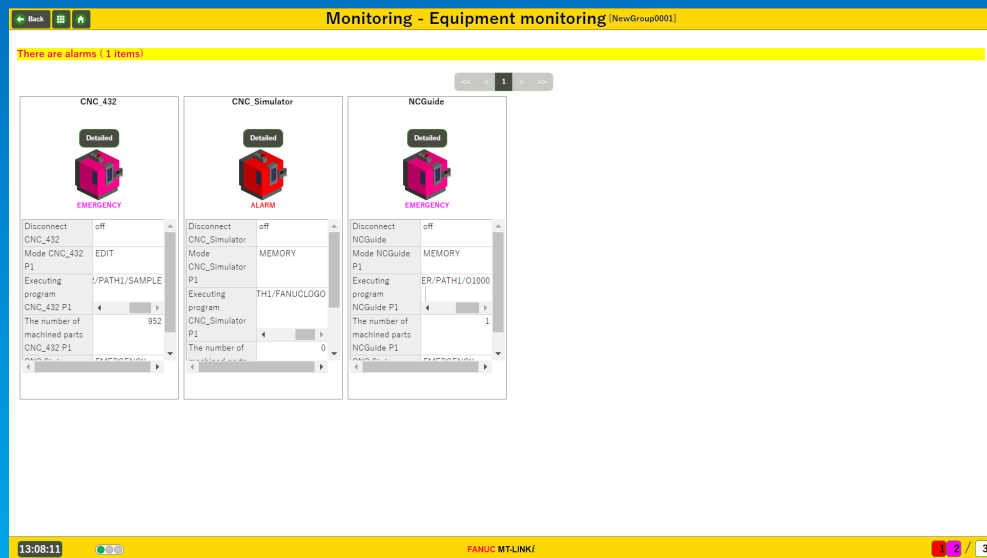
設備監視/生產監視



設備操作監視

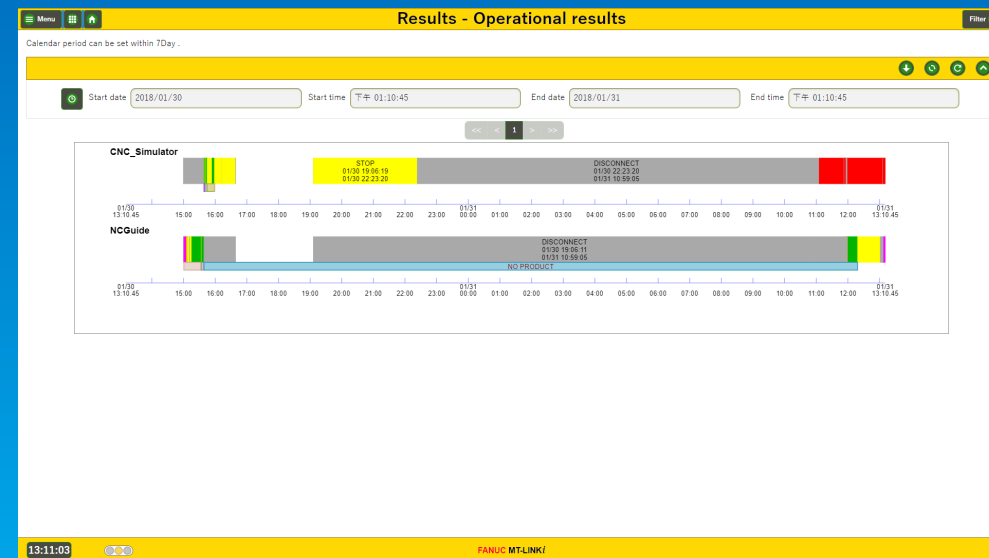
生產線監視

全廠監視



生產線監視

設備監視/生產監視



設備操作監視

Menu

Diagnosis - Alarm History

Filter

Calendar period can be set within 7Day .

Search

Summary

Start date2018/01/30Start time下午 01:12:03End date2018/01/31End time下午 01:12:03

Sort by occurrence date/time

DescendingAscending

Period range (minute)

MinMore than input valueMaxLess than input value

Equipment name

Equipment

Machine name

Machine

Alarm type

type

Alarm number

Number

Alarm message

message

Alarm list

Date and time of occurrence	Time span (minutes)	Equipment name	Machine name	Alarm type	Alarm number	Alarm message
2018/01/31 13:06:19	0.00	CNC_Simulator	CNC_Simulator	SW	100	PARAMETER ENABLE SWITCH ON
2018/01/31 13:05:45	0.04	CNC_Simulator	CNC_Simulator	SW	100	PARAMETER ENABLE SWITCH ON
2018/01/31 11:59:26	66.1	CNC_Simulator	CNC_Simulator	SW	100	PARAMETER ENABLE SWITCH ON
2018/01/31 11:56:51	0.08	CNC_Simulator	CNC_Simulator	SW	100	PARAMETER ENABLE SWITCH ON
2018/01/31 11:54:37	2.02	CNC_Simulator	CNC_Simulator	SW	100	PARAMETER ENABLE SWITCH ON
2018/01/31 11:53:12	1.06	CNC_Simulator	CNC_Simulator	SW	100	PARAMETER ENABLE SWITCH ON
2018/01/31 11:05:40	47.19	CNC_Simulator	CNC_Simulator	SW	100	PARAMETER ENABLE SWITCH ON
2018/01/30 15:06:40	0.29	NCGuide	NCGuide	SR	5010	END OF RECORD
2018/01/30 15:05:22	0.06	NCGuide	NCGuide	SR	5010	END OF RECORD
2018/01/30 15:00:36	4.61	NCGuide	NCGuide	SW	100	PARAMETER ENABLE SWITCH ON

13:12:07

FANUC MT-LINK7

Menu

Calendar period can be set within 7Day.

Search

Cancel

Start date

2018/01/30

Start time

Tue 01:12:03

Sort by occurrence date/time

Descending

Ascending

Period range (minutes)

Min

More than input value

Max

Less than input value

Equipment

Alarm number

Number

Alarm list

Date and time of occurrence

Time span (minutes)

Equipment name

Machine name

Alarm type

All

2018/01/30 13:06:39

0.00

CNC_Simulator

CNC_Simulator

SR

2018/01/30 13:09:45

0.04

CNC_Simulator

CNC_Simulator

SR

2018/01/30 13:39:26

66.1

CNC_Simulator

CNC_Simulator

SR

2018/01/30 13:56:51

0.08

CNC_Simulator

CNC_Simulator

SR

2018/01/30 13:56:57

2.02

CNC_Simulator

CNC_Simulator

SR

2018/01/30 13:59:12

1.00

CNC_Simulator

CNC_Simulator

SR

2018/01/30 13:59:46

47.19

CNC_Simulator

CNC_Simulator

SR

2018/01/30 15:06:40

0.10

NCGuide

NCGuide

SR

2018/01/30 15:05:22

0.00

NCGuide

NCGuide

SR

2018/01/30 15:05:38

4.61

NCGuide

NCGuide

SR

Menu

Diagnosis - Program History

Filter

Start date/time were corrected automatically because the period setting exceeded 7Day.

Start date

2018/01/24

Start time

下午 01:13:30

End date

2018/01/31

End time

下午 01:13:30

Sort by start date/time

Descending

Ascending

Switch display:

Main only

Main/Running

NCGuide: path1

01/30 15:02:59

15:10

15:20

15:30

15:40

01/30 15:42:51

//CNC_MEM/USER/PATH1/O0004

01/30 15:15:46

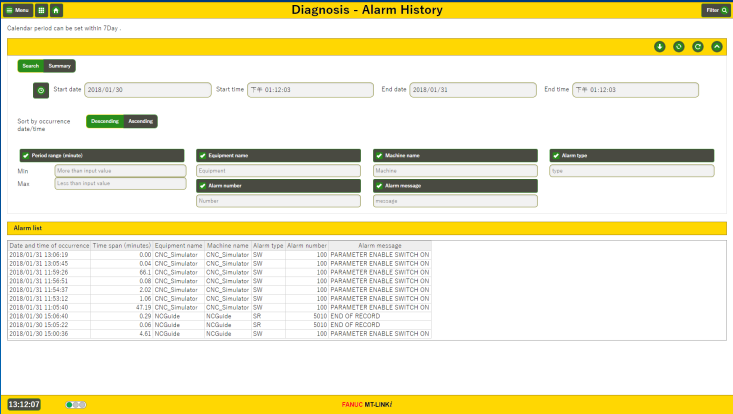
01/30 15:33:28

Program type	Machine name	Path	Program name	Start time	End time	Time span (minutes)
Main Program	NCGuide	path1	//CNC_MEM/USER/PATH1/O1000	2018/01/31 11:59:54	2018/01/31 12:18:20	18.43
Main Program	NCGuide	path1	//CNC_MEM/USER/PATH1/O0004	2018/01/30 15:38:38	2018/01/30 15:38:45	0.12
Main Program	NCGuide	path1	//CNC_MEM/USER/PATH1/O0004	2018/01/30 15:34:09	2018/01/30 15:38:25	4.28
Main Program	NCGuide	path1	//CNC_MEM/USER/PATH1/O0004	2018/01/30 15:15:46	2018/01/30 15:33:28	17.69
Main Program	NCGuide	path1	//CNC_MEM/USER/PATH1/O0004	2018/01/30 15:15:04	2018/01/30 15:15:28	0.40
Main Program	NCGuide	path1	//CNC_MEM/USER/PATH1/FANUCLOGO	2018/01/30 15:06:34	2018/01/30 15:06:40	0.10
Main Program	NCGuide	path1	//CNC_MEM/USER/PATH1/FANUCLOGO	2018/01/30 15:05:16	2018/01/30 15:05:22	0.10

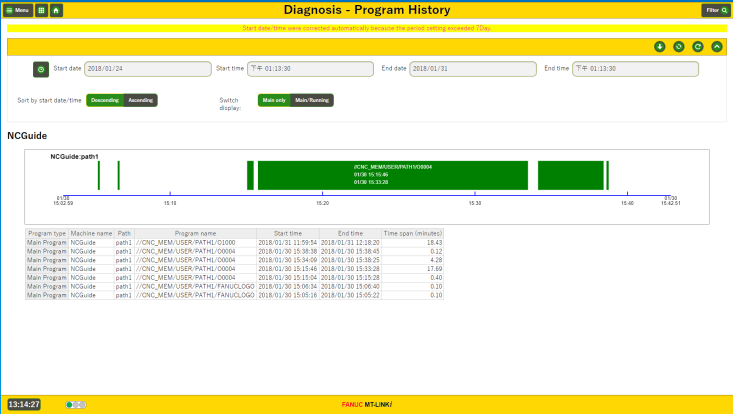
13:14:27

FANUC MT-LINK7

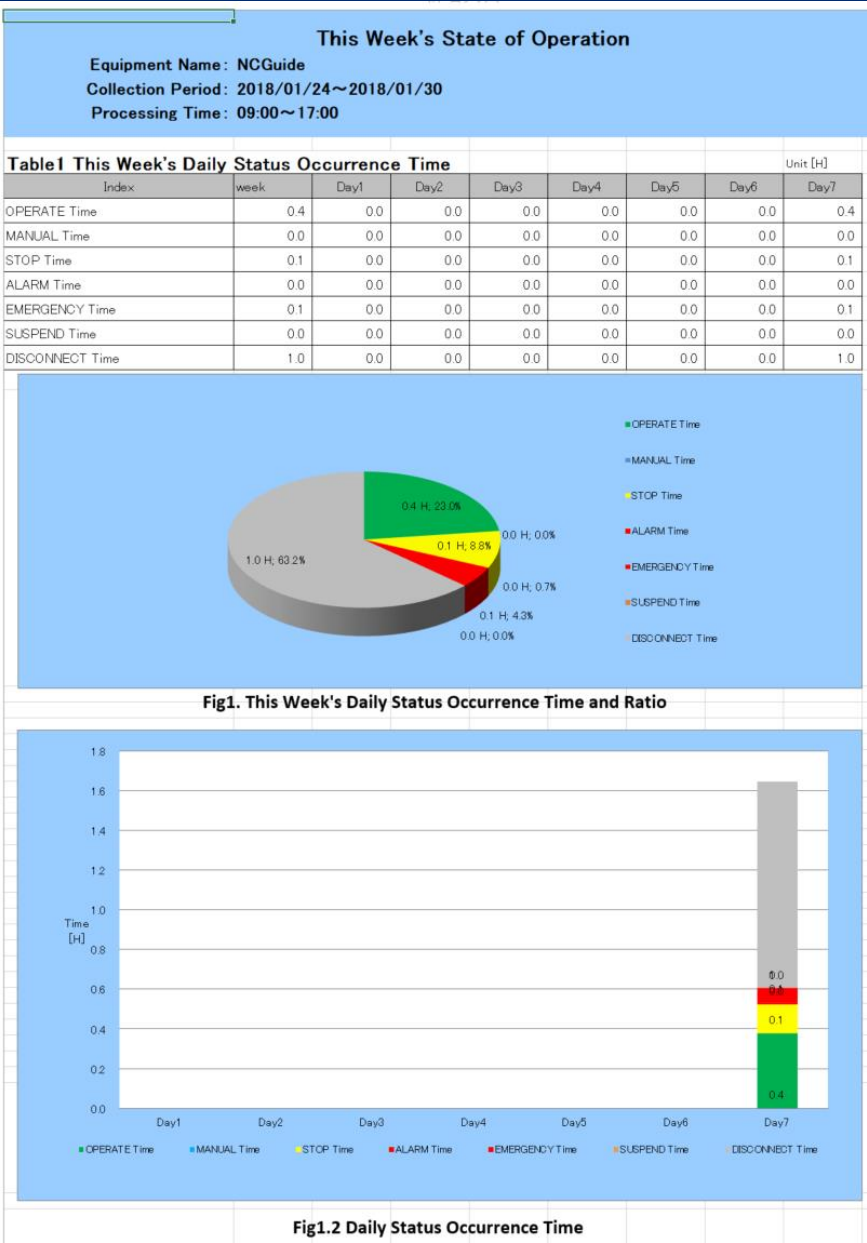
管理



異警履歴

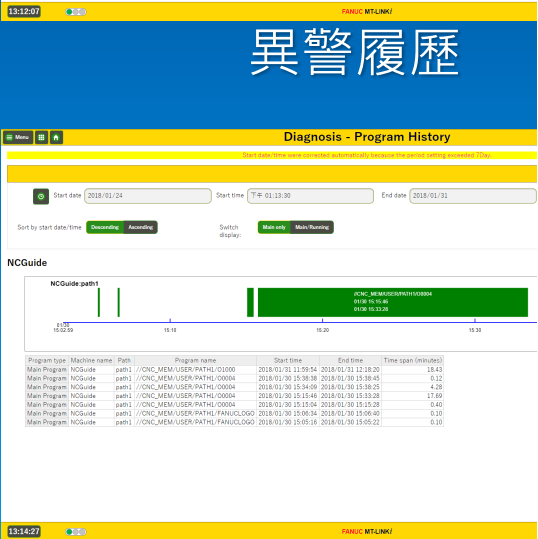
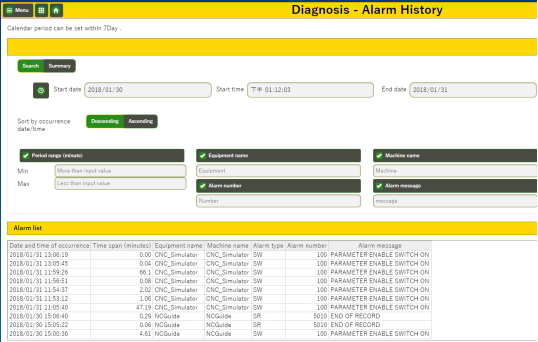


程式履歴

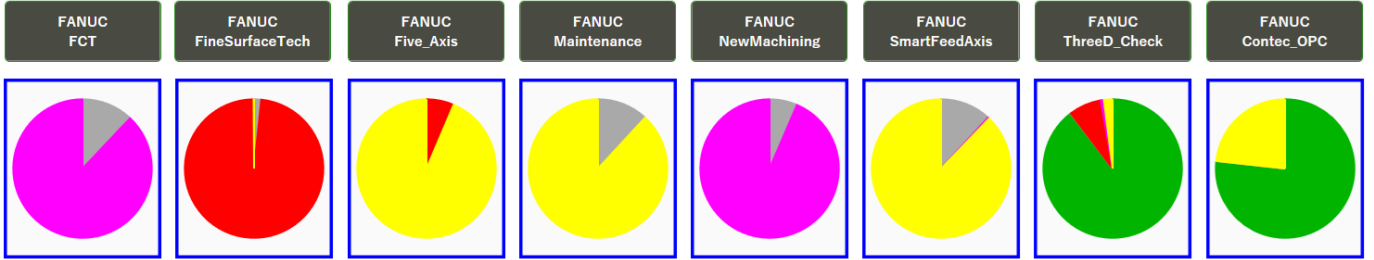
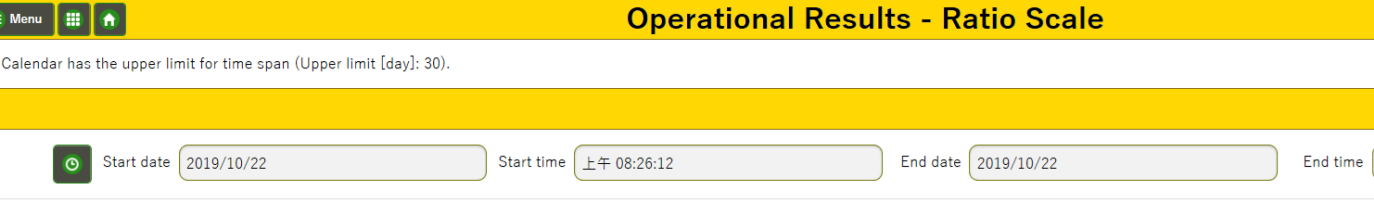


稼働率報表

管理

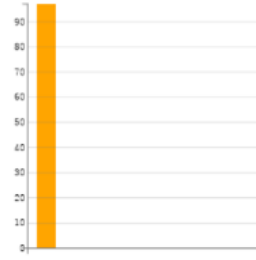


程式履歷



Facility Name	Equipment Name	OPERATE	MANUAL	DISCONNECT	ALARM	EMERGENCY	STOP	SUSPEND	WARMUP
FANUC	FCT	0.00%	0.00%	12.05%	0.00%	87.95%	0.00%	0.00%	0.00%
FANUC	FineSurfaceTech	0.00%	0.00%	1.66%	98.23%	0.00%	0.10%	0.00%	0.00%
FANUC	Five_Axis	0.07%	0.00%	0.11%	6.21%	0.00%	93.60%	0.00%	0.00%
FANUC	Maintenance	0.00%	0.00%	11.85%	0.00%	0.00%	88.15%	0.00%	0.00%
FANUC	NewMachining	0.00%	0.00%	6.47%	0.00%	93.53%	0.00%	0.00%	0.00%
FANUC	SmartFeedAxis	0.00%	0.00%	11.86%	0.00%	0.30%	87.84%	0.00%	0.00%
FANUC	ThreeD_Check	89.62%	0.00%	0.07%	7.58%	0.72%	2.02%	0.00%	0.00%
FANUC	Contec_OPC	76.72%	0.00%	0.03%	0.00%	0.00%	23.25%	0.00%	0.00%

	Product name	Production results
<input checked="" type="radio"/>	NO PRODUCT	97
<input type="radio"/>	TUNING	0



AlarmType	AlarmNumber	Number of events
SV	1026	
SV	1067	
SW	100	

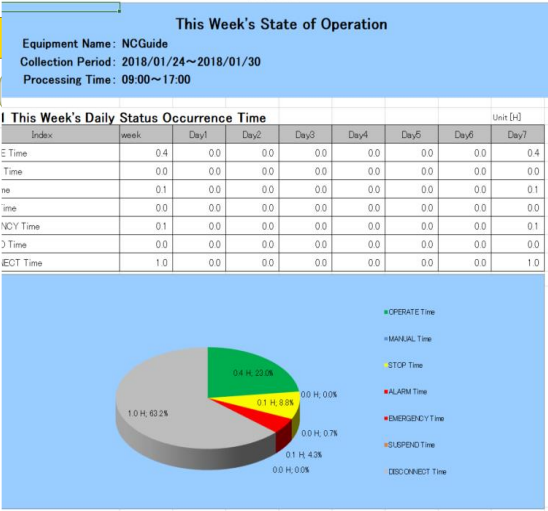


Fig1. This Week's Daily Status Occurrence Time and Ratio

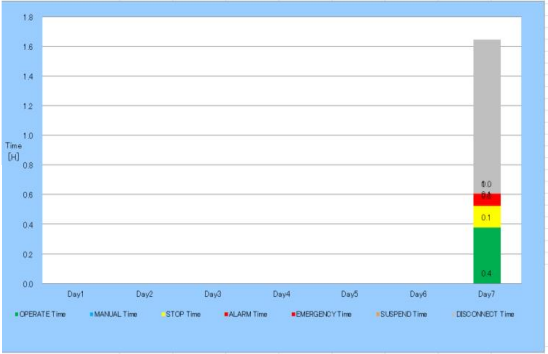
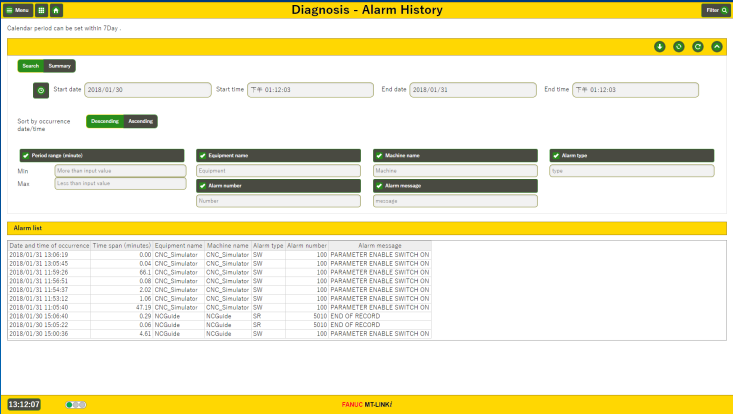


Fig1.2 Daily Status Occurrence Time

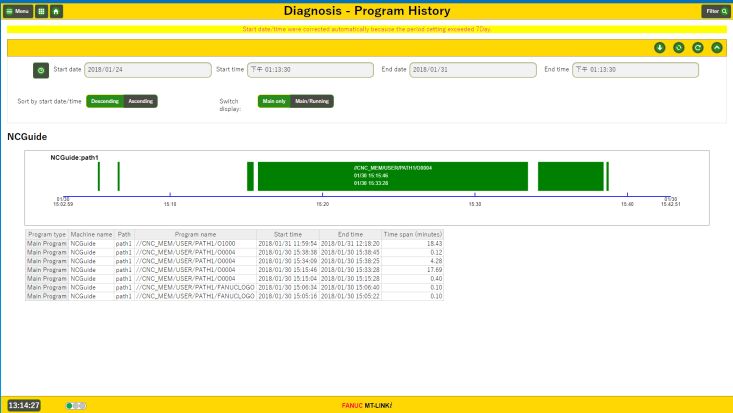
稼動率報表

跨整合伺服器

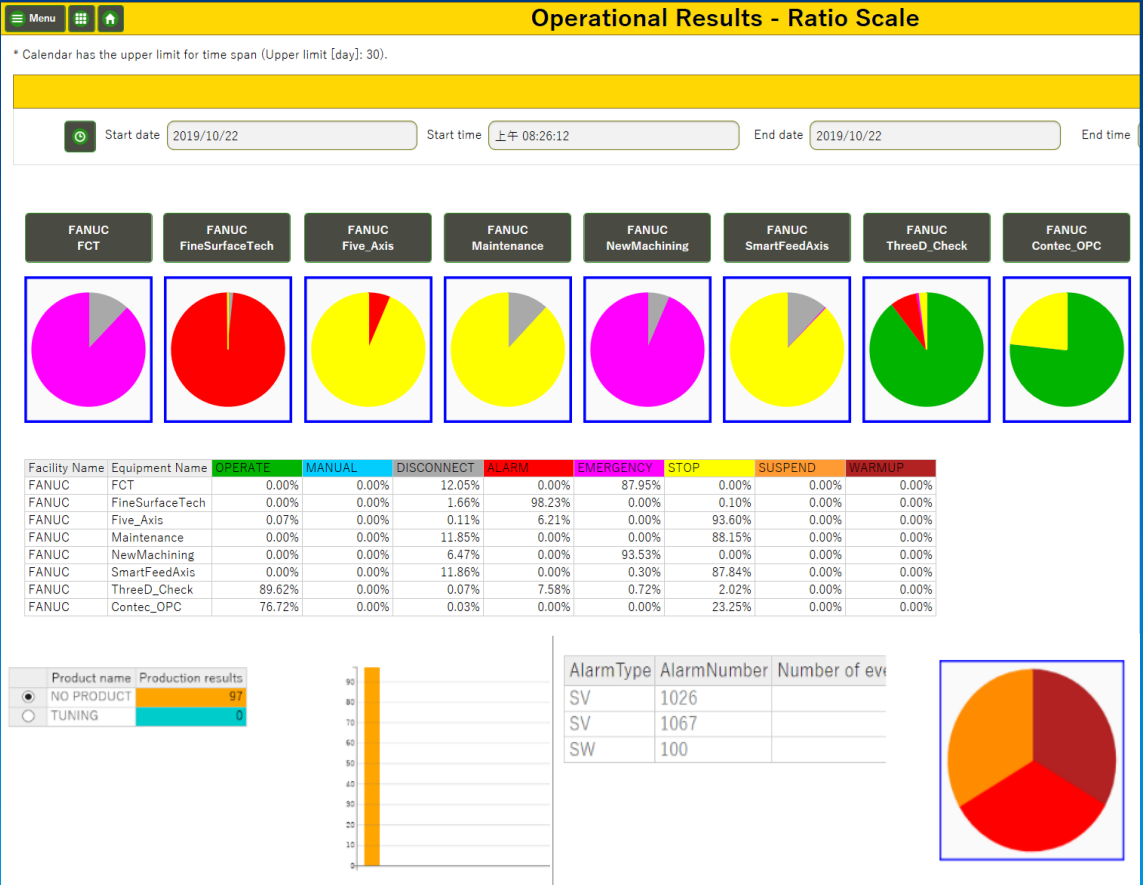
管理



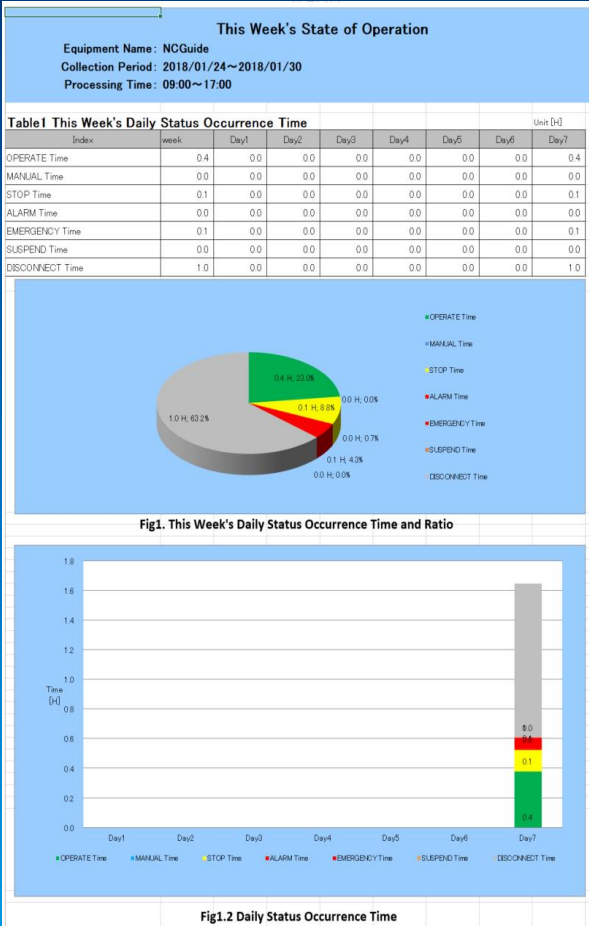
異常履歴



程式履歴



跨整合伺服器



稼働率報表

預防



自動備份

預防



自動備份



權限管理

預防



自動備份



客製化郵件通知

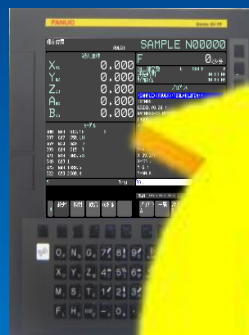


權限管理

預防



自動備份



權限管理



客製化郵件通知

循環記錄

預防



自動備份



權限管理



客製化郵件通知



循環記錄

MT-LINK*i* 四大重點

連結

- FANUC CNC
- FANUC ROBOT
- OPC UA 通訊協定
- MTConnect 通訊協定

可視化

- 全廠區監視
- 生產線監視
- 設備監視
- 操作監視
- 訊號監視
- 異警監視
- 生產監視
(操作者ID/產品名稱/編號/註解)

管理

- 異警履歷監視
- 程式履歷監視
- 變數履歷監視
- 稼動率報表
- 跨伺服器整合
- 參數/補正/操作履歷等
差異性比較

預防

- 客製化郵件通知
- 定期系統自動備份
(參數/變數/補正/操作履歷)
- 管理者權限
- 循環紀錄

進階應用

- 開放式資料庫 MongoDB、支援WebAPI(讀取資料)
- 適用於各種程式語言(C, C++, C#, php, JAVA, Python, Node.js, Ruby)

謝謝聆聽