

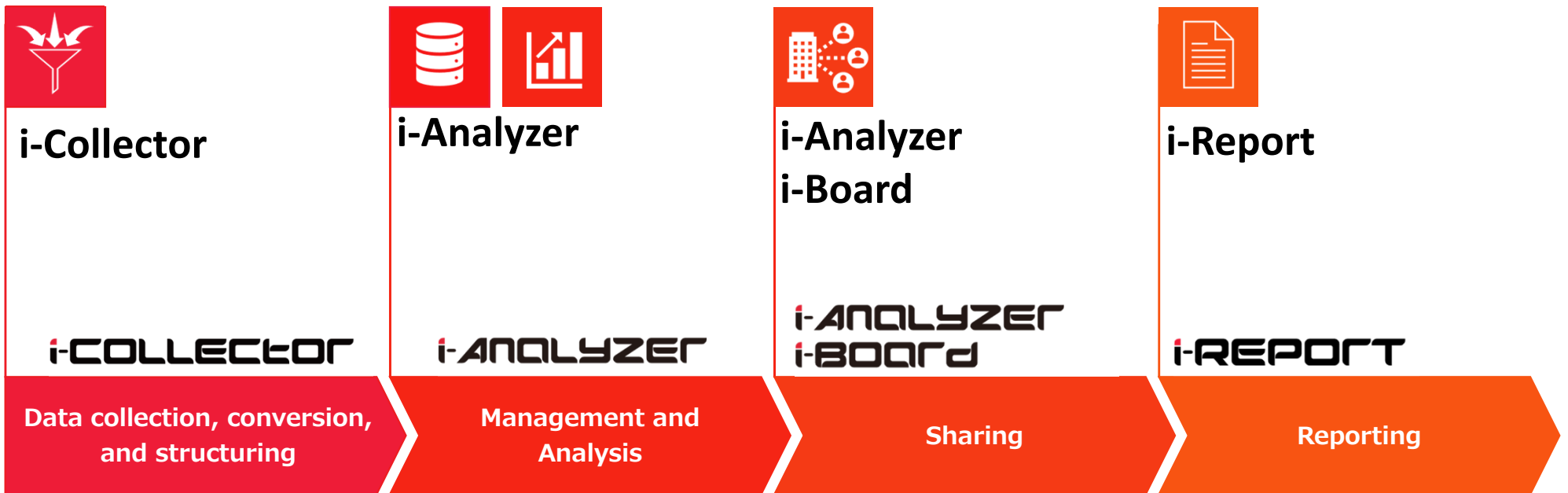


PROCESS ARTZ
CO. LTD.

iNDEQS series introduction

Process Artz Co. Ltd.

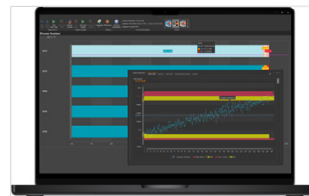
Roles of software



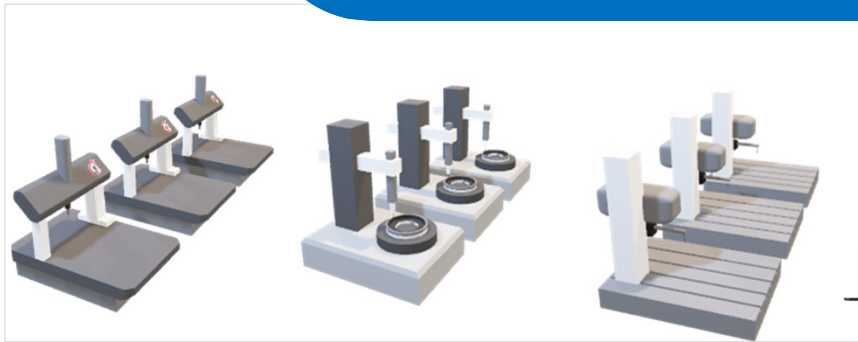
i-ANALYZER



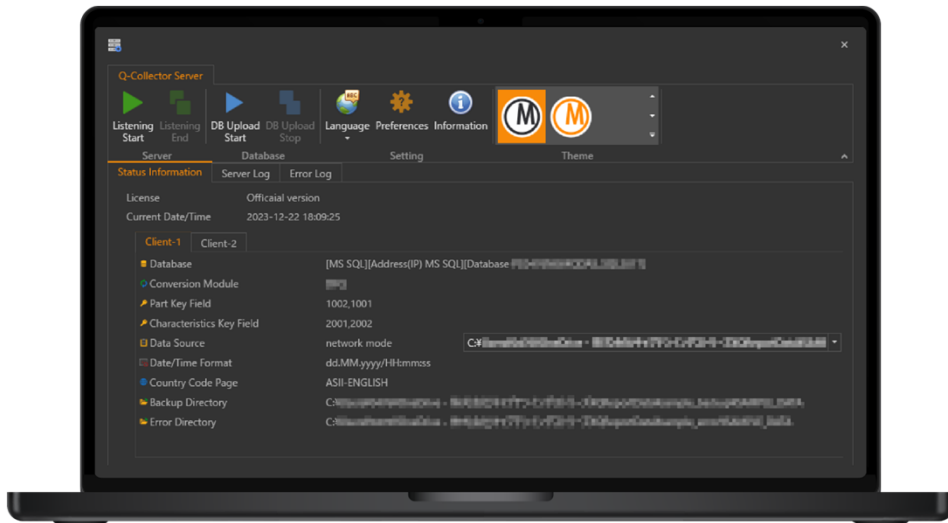
i-BOARD



i-REPORT



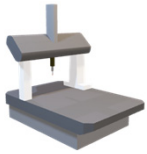
i-Collector



Data collection, conversion, and structuring

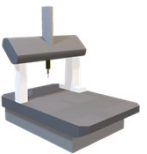
- Solving the first and biggest challenge in data analysis
 - ▶ Any format type is acceptable as long as it follows a set rule.
- Multi-purpose uploader
 - ▶ One software handles multiple data sources and multiple databases.
 - ▶ Collect and structure your data in one step.
- Secure communication
 - ▶ Supports both cloud and on-premise environments
 - ▶ Implements a secure communication mode (port selection)

Integrates data in different formats



Accretech CMM

planid	partnb id	type	idsymbol	actual	nominal	uppertol	lowertol	deviation
TS_CMMSample1	55 直径_P1_ホール	直径	diameter	5.095737	5	0.2	0	0.095737
TS_CMMSample1	55 Y-値_P1_ホール	Y-値	yValue	-134.751	-134.665	0.15	-0.15	-0.08555
TS_CMMSample1	55 Z-値_P1_ホール	Z-値	zValue	286.6886	287	0.15	-0.15	-0.31144
TS_CMMSample1	55 直径_P2_ホール	直径	diameter	5.080393	5	0.2	0	0.080393
TS_CMMSample1	55 Y-値_P2_ホール	Y-値	yValue	-134.655	-134.665	0.15	-0.15	0.010168
TS_CMMSample1	55 Z-値_P2_ホール	Z-値	zValue	199.0447	199	0.15	-0.15	0.044696



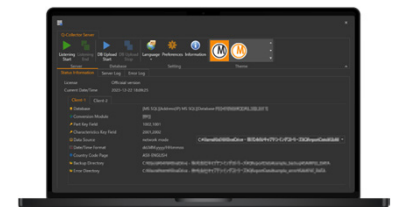
Mitutoyo CMM

BX33215-C

TS_CMMSample1

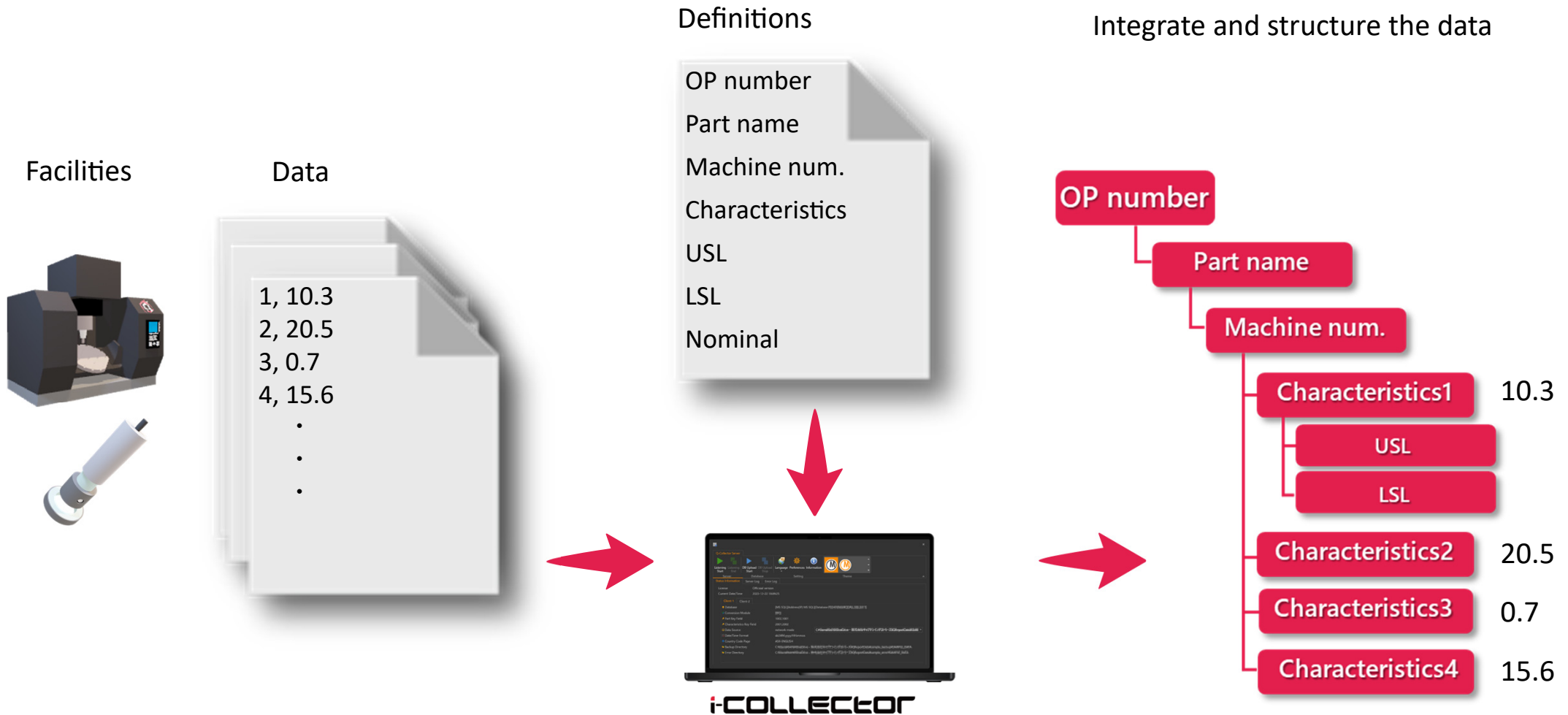
#####

1001 直径P1_ホール	303_1	5	0	0.2	5.095737	0.095737	-----*****_
1002 Y-値_P1_ホール	303_2	-134.665	-0.15	0.15	-134.751	-0.08555	-----*****_
1003 Z-値_P1_ホール	303_3	287	-0.15	0.15	286.6886	-0.31144	-----*****_
1004 直径_P2_ホール	303_4	5	0	0.2	5.080393	0.080393	-----*****_
1005 Y-値_P2_ホール	303_5	-134.665	-0.15	0.15	-134.655	0.010168	-----+---->>
1006 Z-値_P2_ホール	303_6	199	-0.15	0.15	199.0447	0.044696	-----+---->>



i-COLLECTOR

Supplement or discard and structure the data in one step



Data integration with other systems



Secure upload



i-Collector Server

- General “share folder” setting required
- Use general port (UDP137 and TCP139)



i-Collector Server

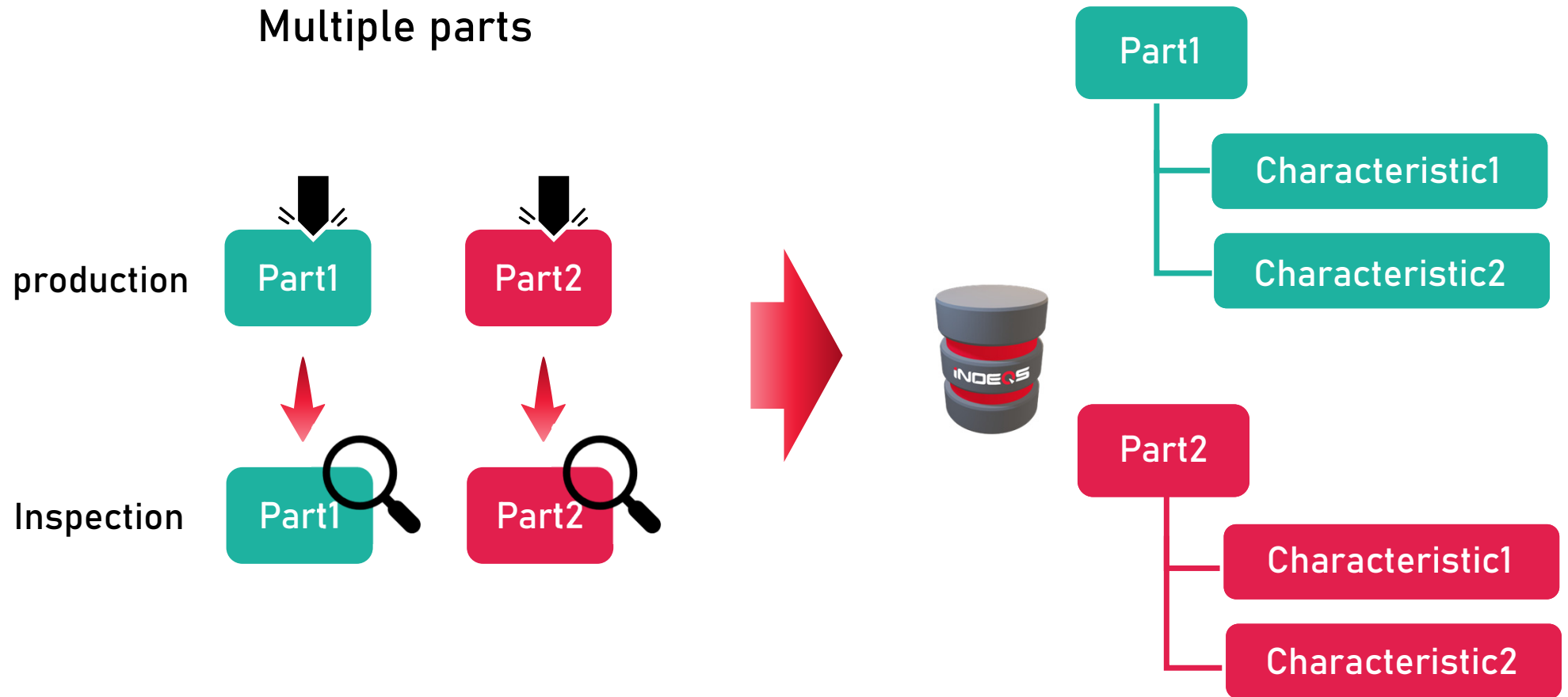
- Share folder is NOT required.
- Selectable com port → Avoid general target ports for malware
- No file transfer tools (such as FTP server) are required.

Data structure follows the changes of production process 1

Single part



Data structure follows the growth of production process 2

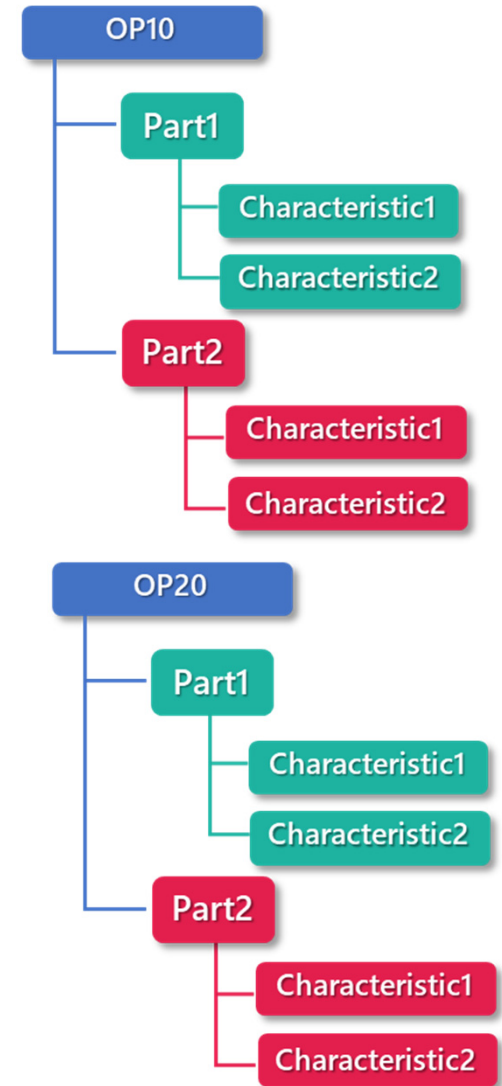
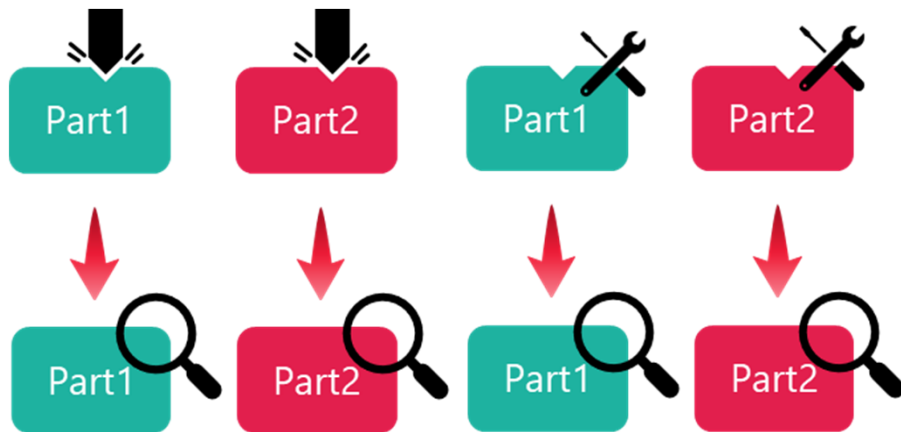


Data structure follows the growth of production process 3

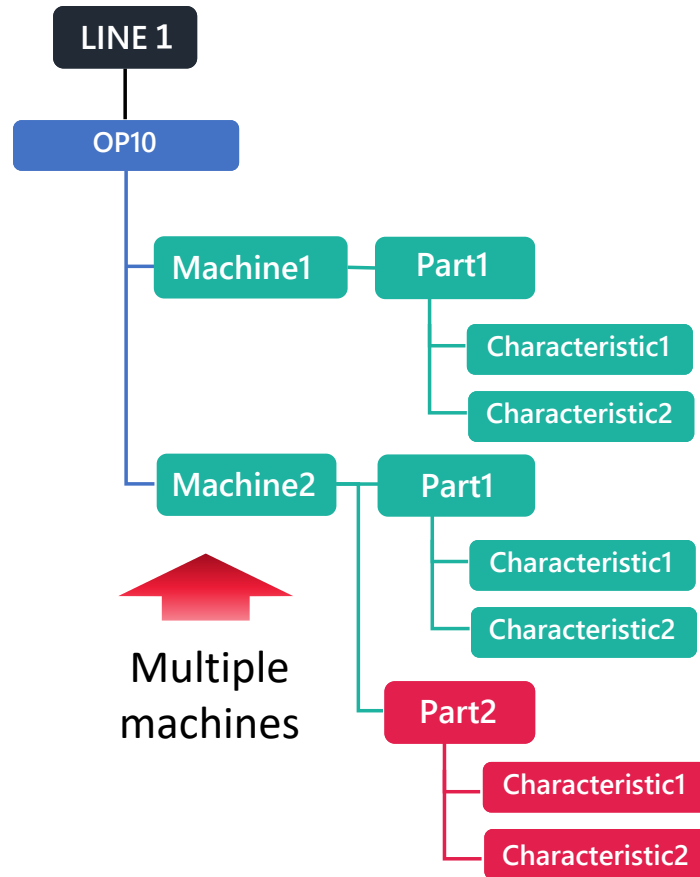
Multiple parts in multiple processes

PO10(machining)

P020(assembling)

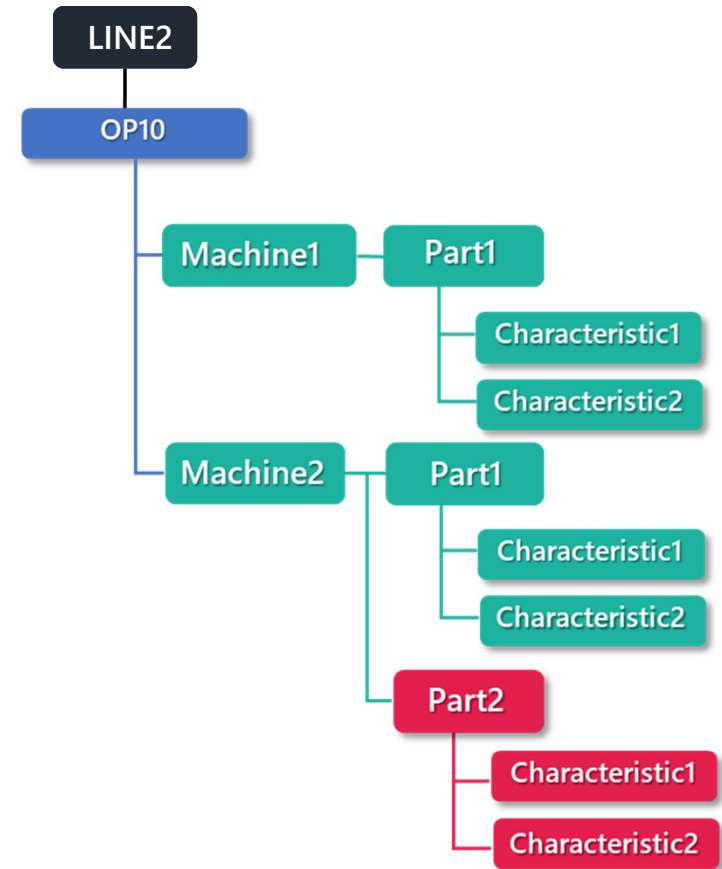


Data structure follows the growth of production process 4



Multiple
machines

Mixed flow



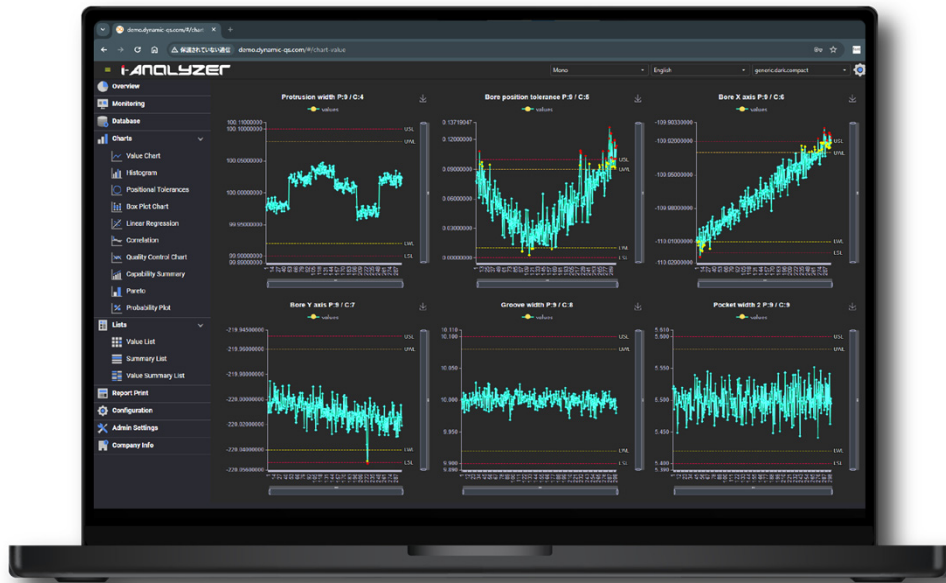
Data structure follows the growth of production process 5

The system follows the changes in production or inspection processes.



- No changes to the database structure or software specifications are required.
- Software settings can change data structures.

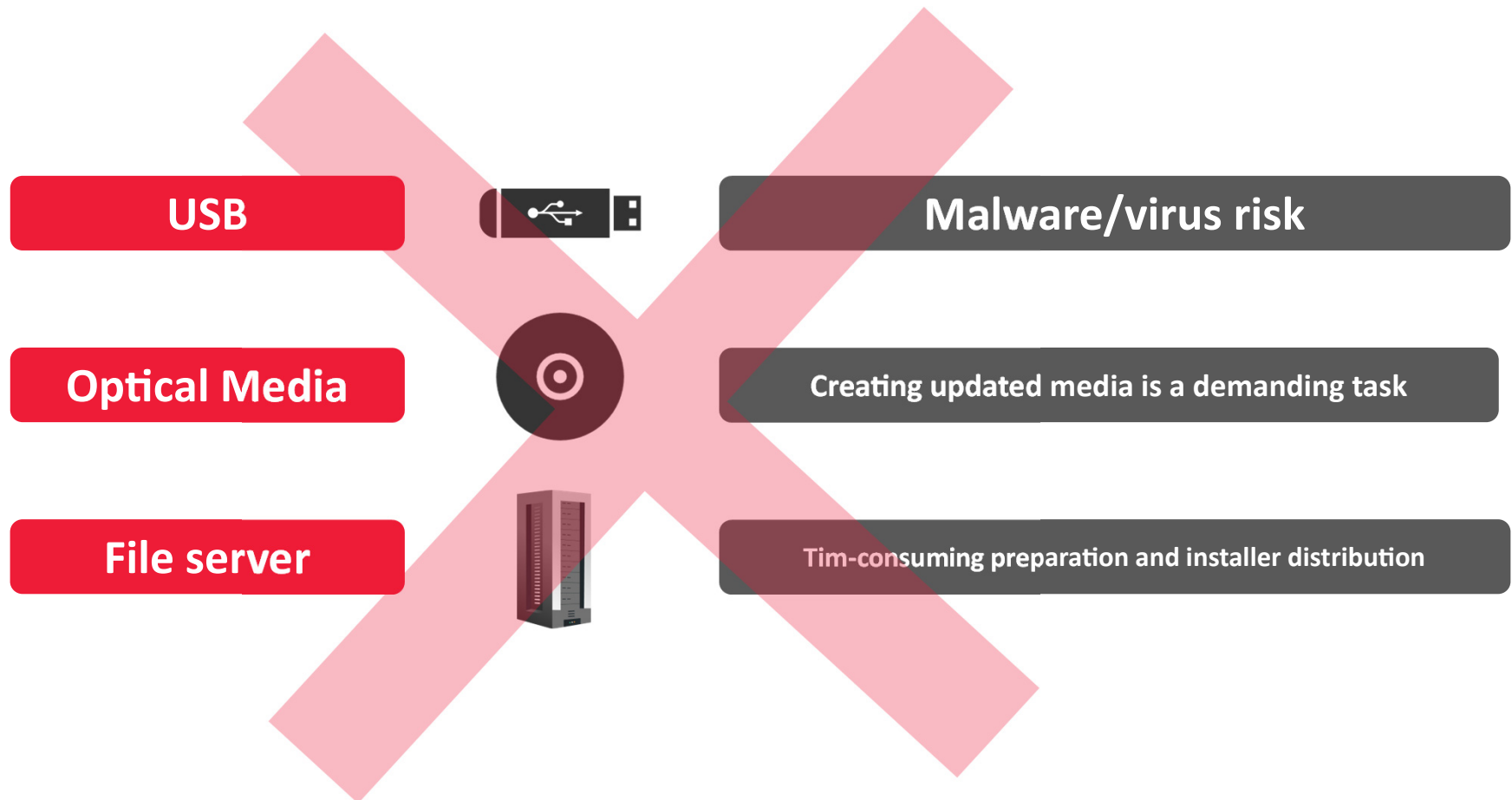
i-Analyzer



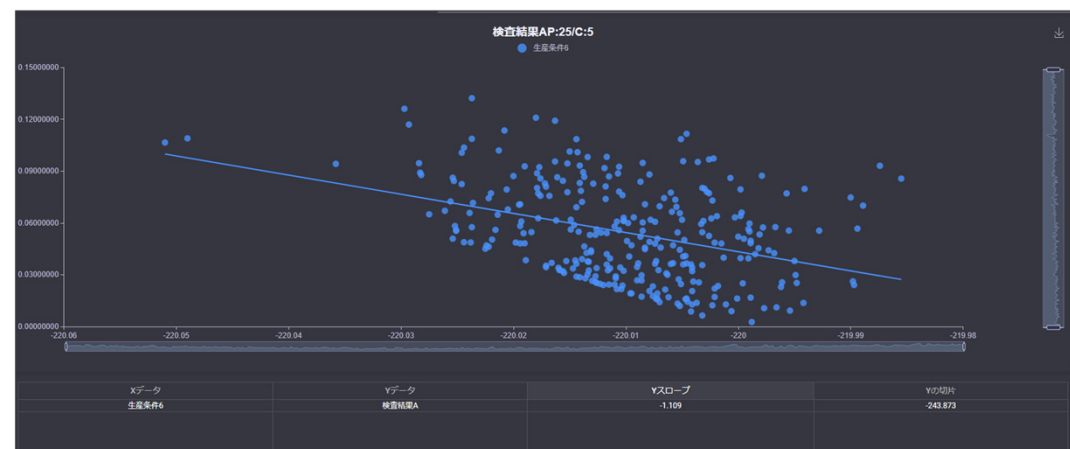
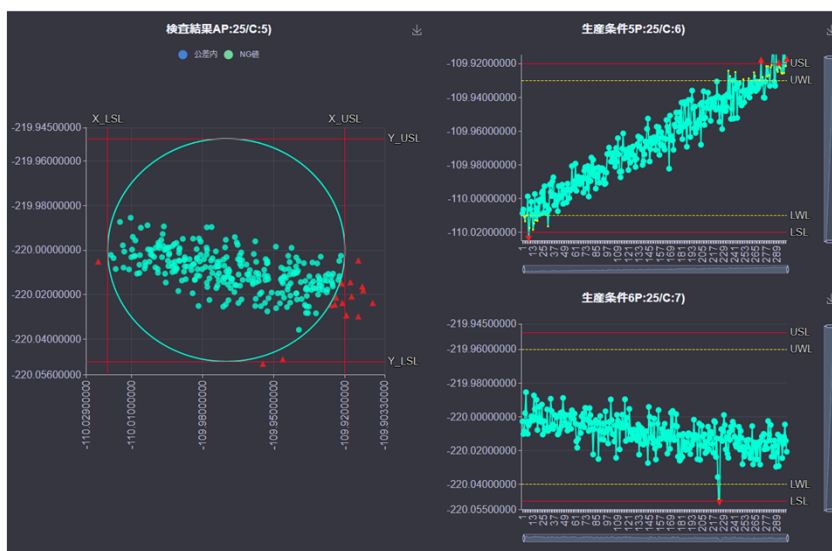
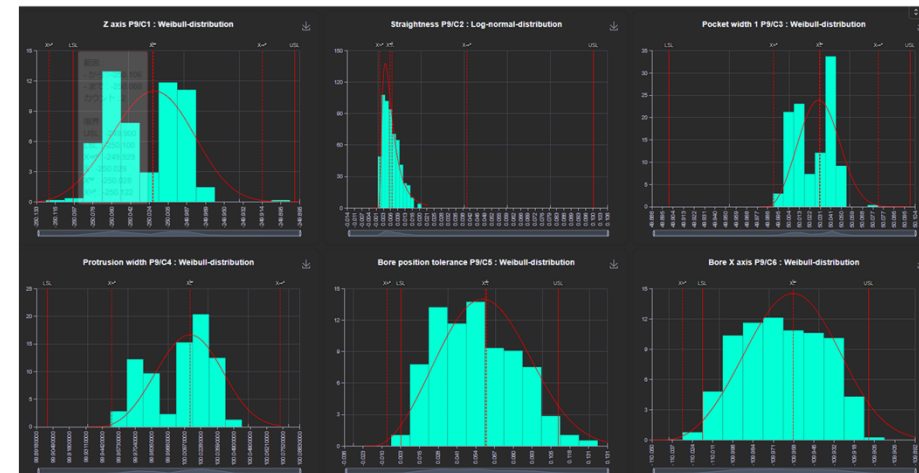
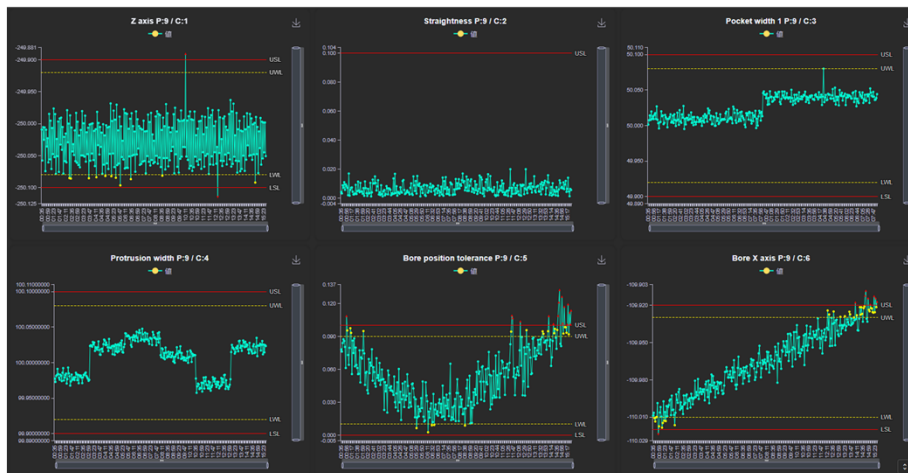
Quality data analysis and management

- Full browser-based
 - ▶ No client software required.
 - ▶ Remote quality control from anywhere

No need to update or manage installation on client PCs

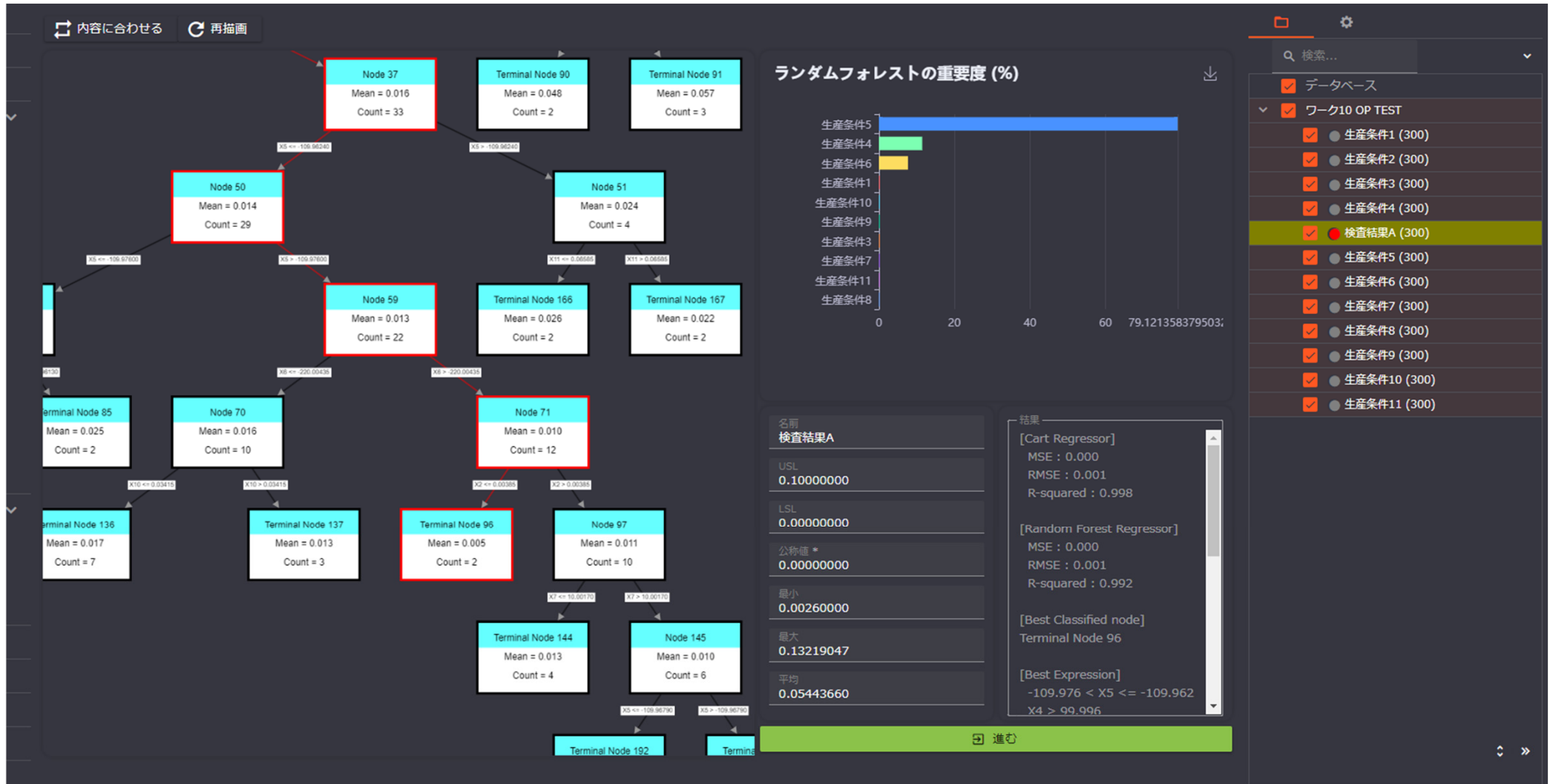


Wide variety of graphs

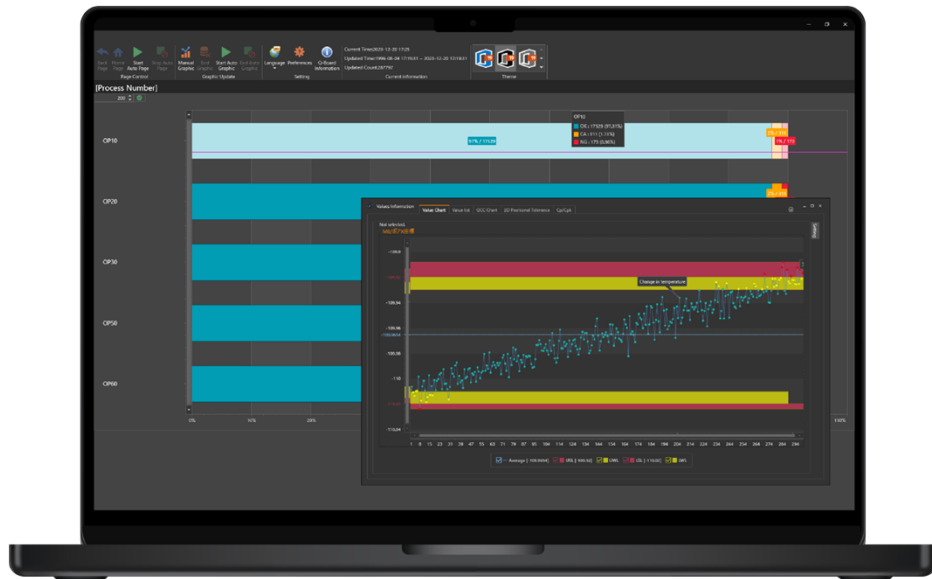


Xデータ	Yデータ	Yスロープ	Yの切片
生産条件6	検査結果A	-1.109	-243.873

Factor analysis by machine learning



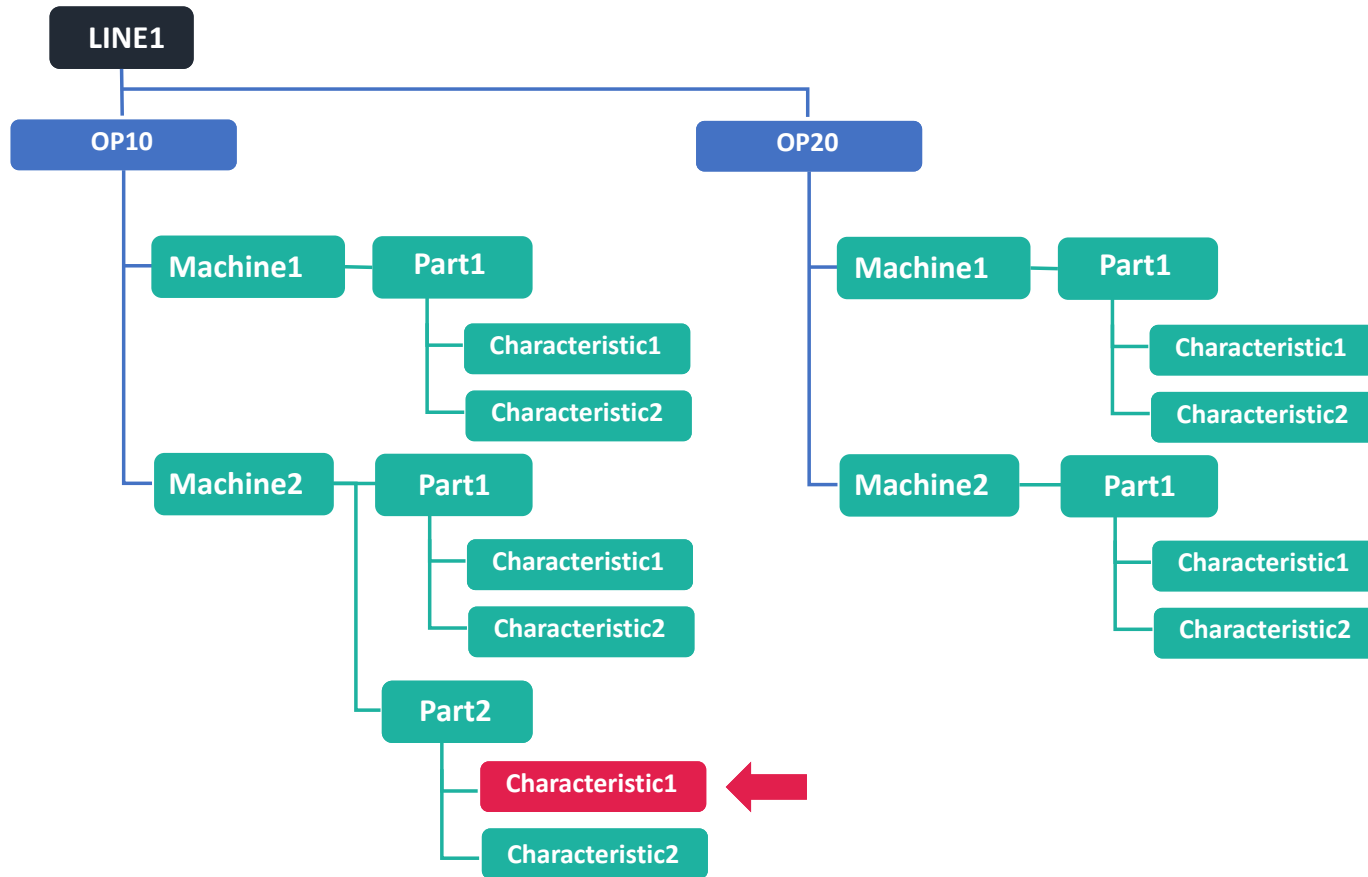
i-Board

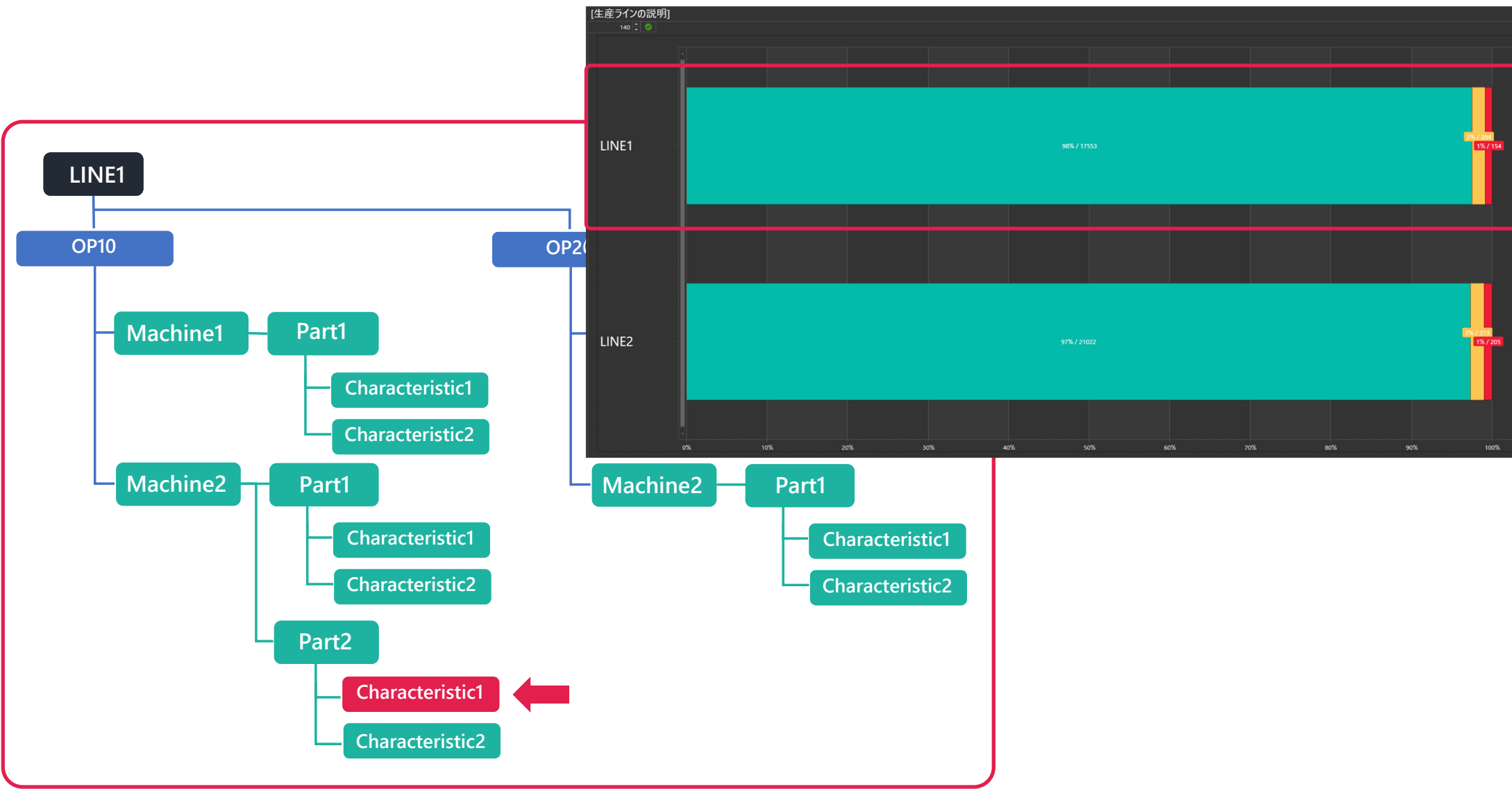


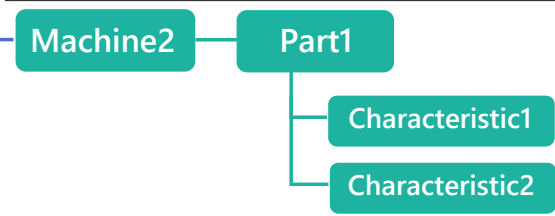
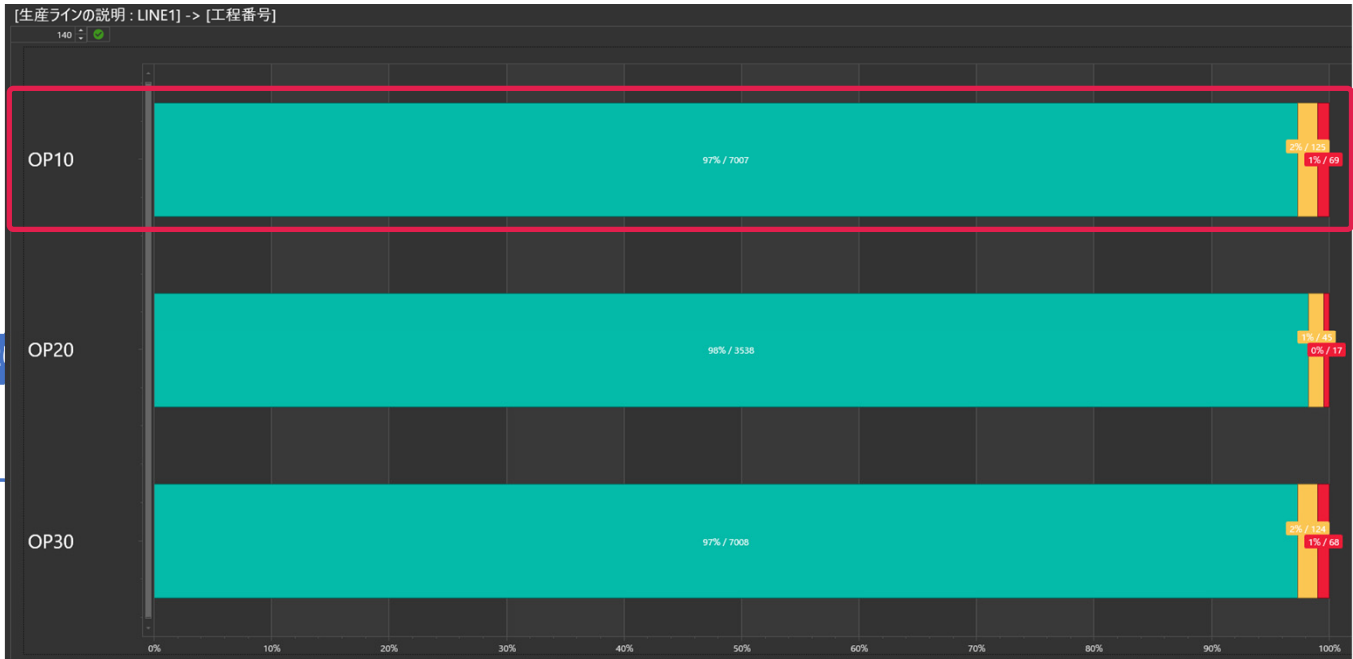
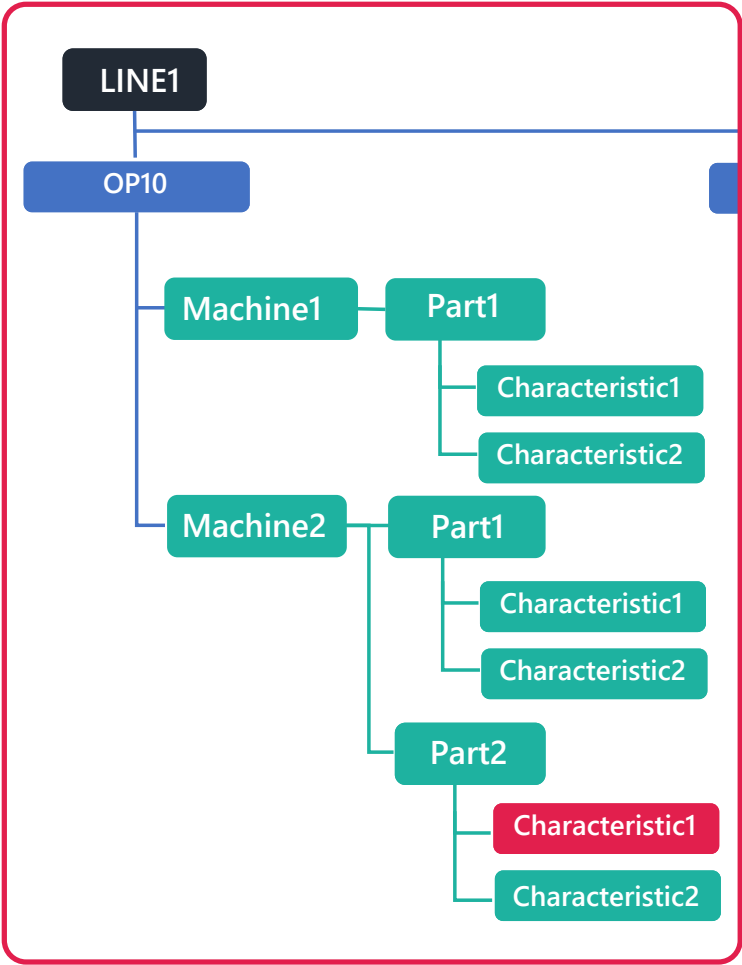
Advanced auto-updating dashboard

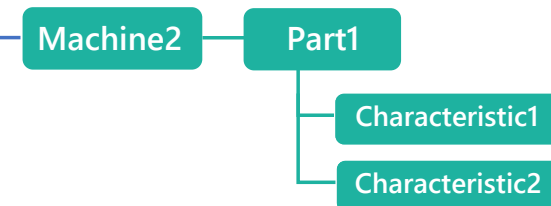
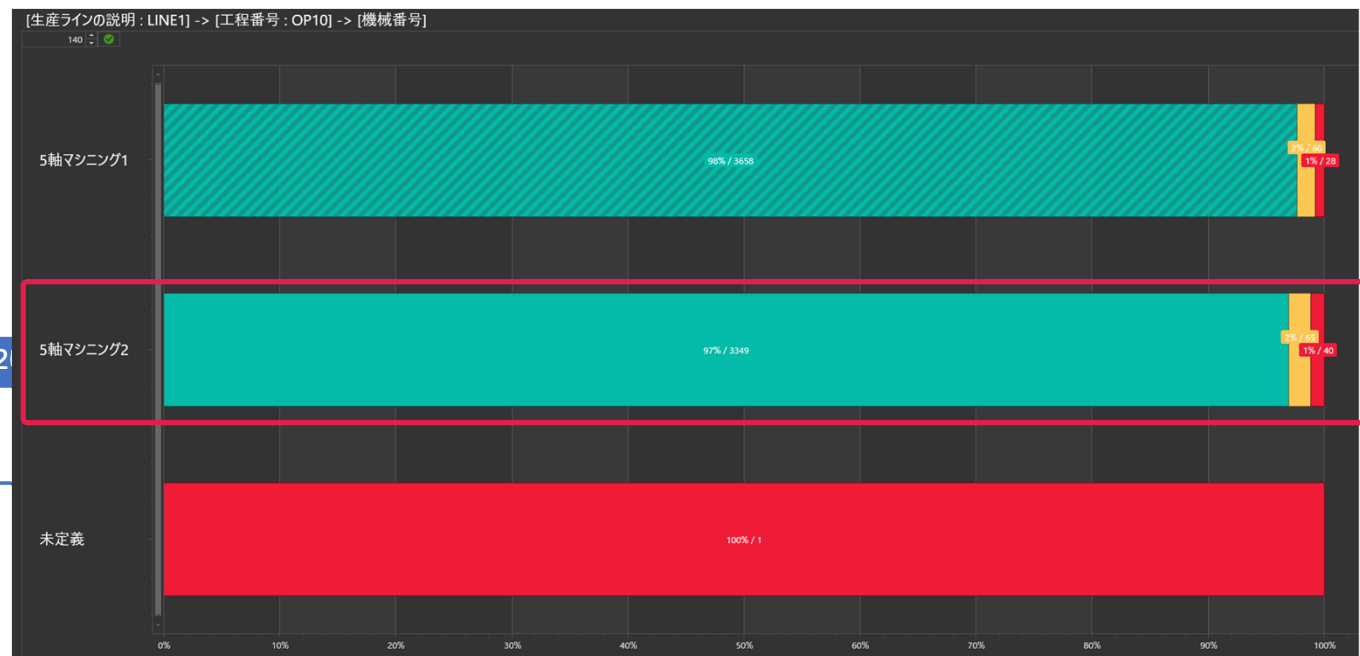
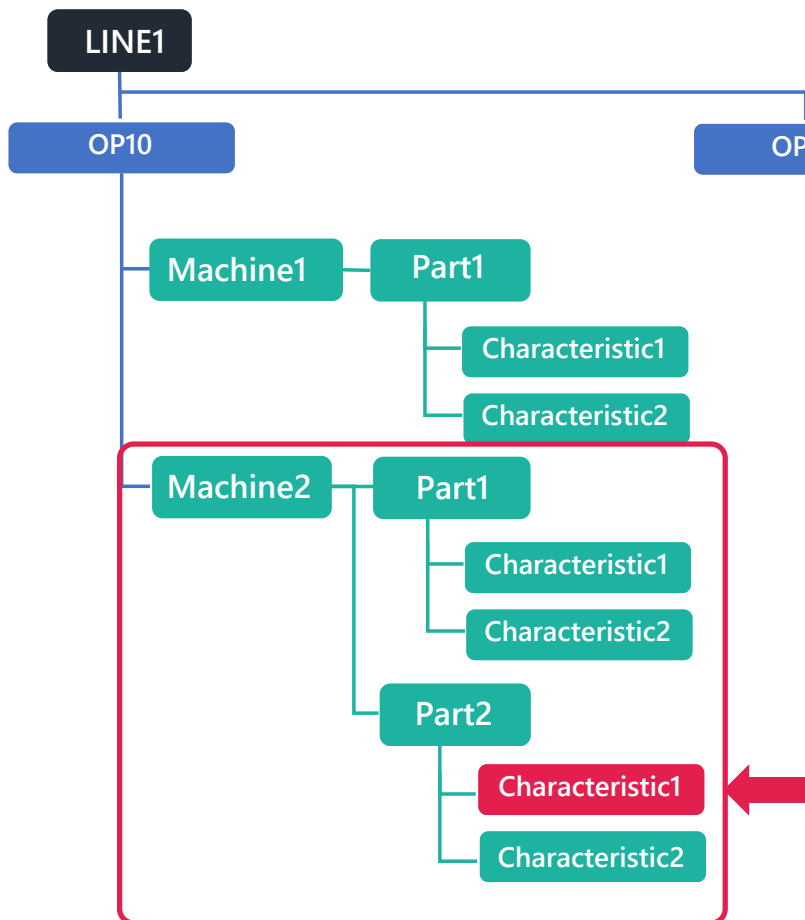
- Configurable drill-down hierarchies
 - ▶ The user can set the number of hierarchical levels from the top layer to a single data and the layer definition.
- Automatic update
 - ▶ Get the latest database snapshot at a programmed time interval.
 - ▶ Display each layer in a slideshow at set intervals.
- Event writing function
 - ▶ Event and incident information can be set directly from the graph. → information is reflected immediately.

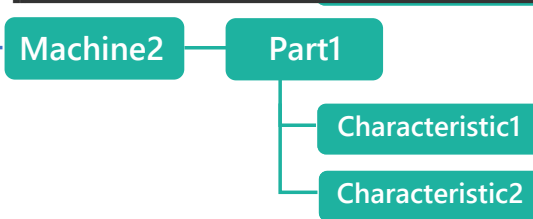
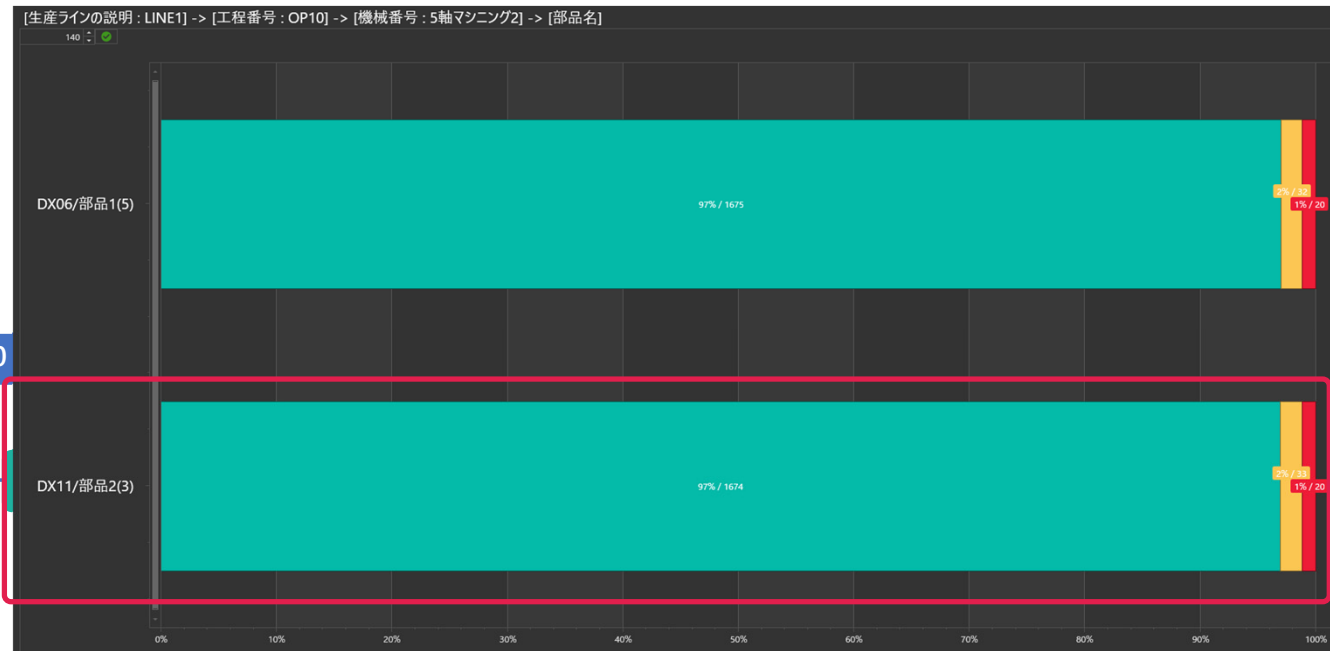
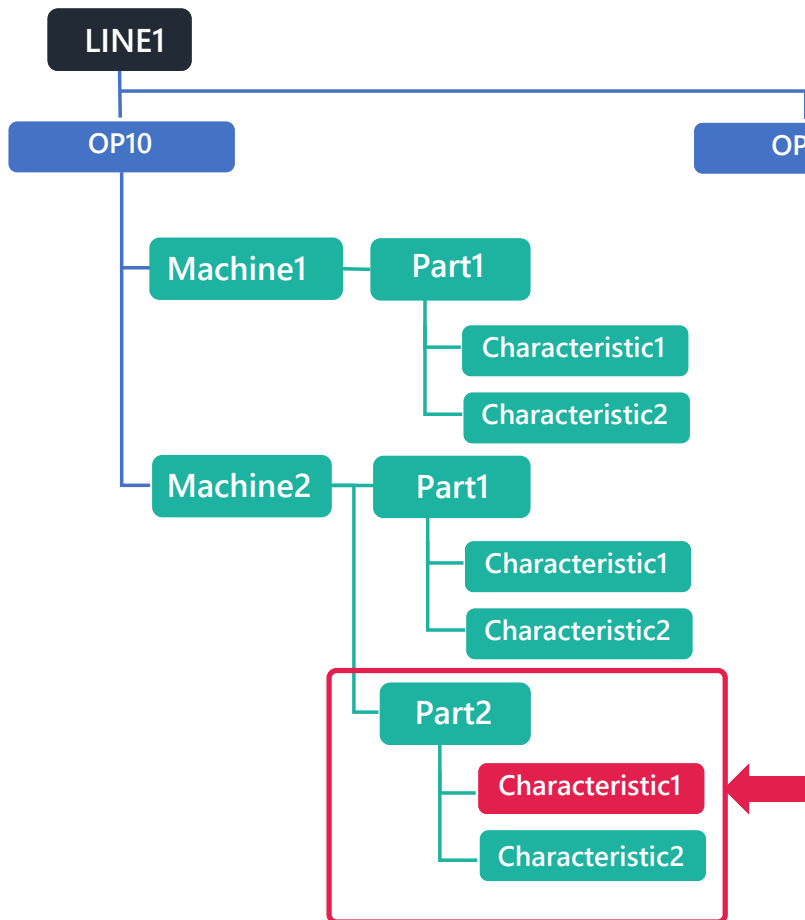
Drill-down image

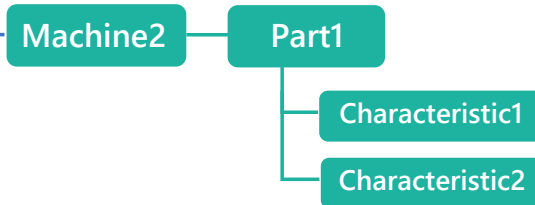
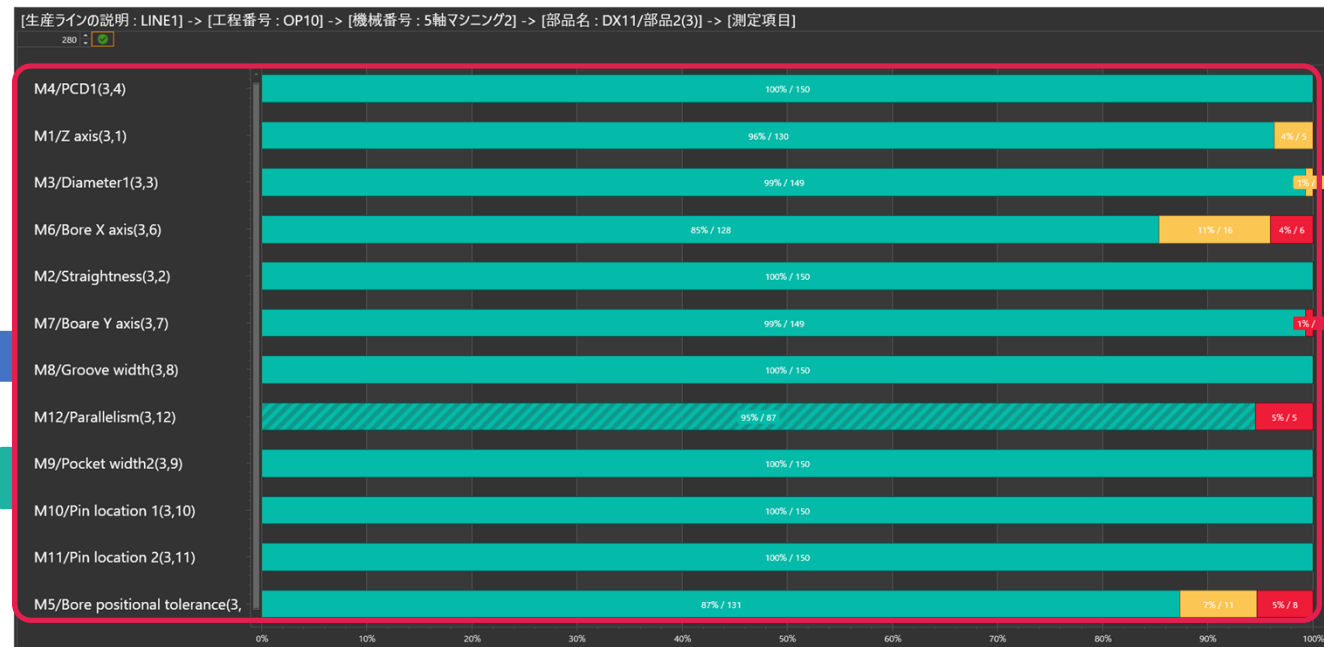
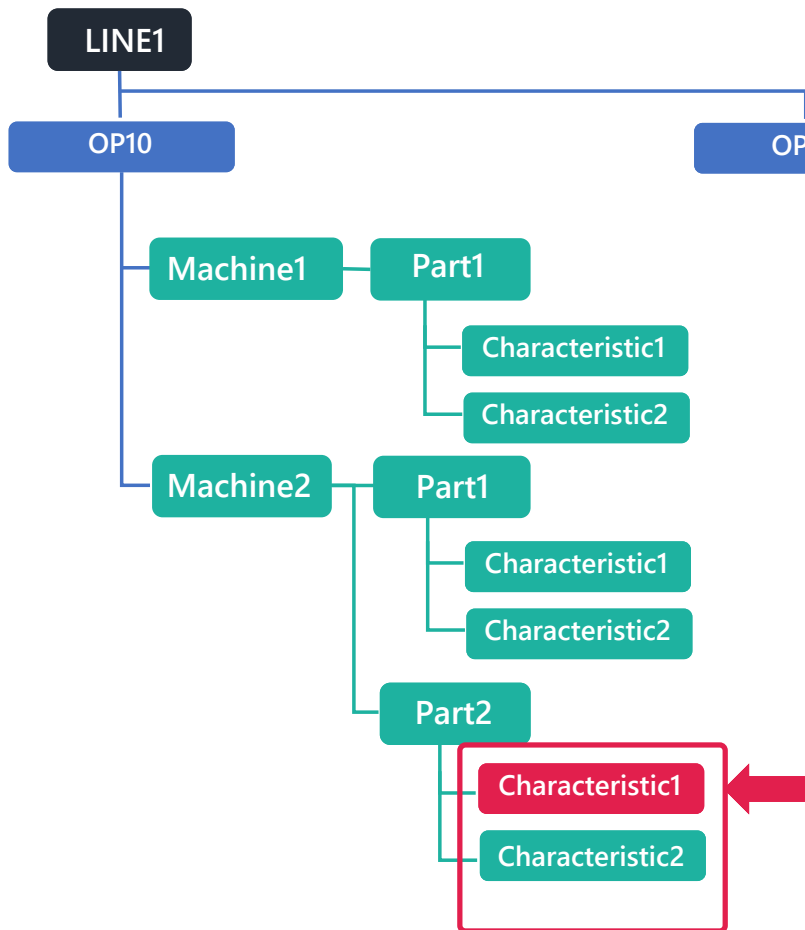


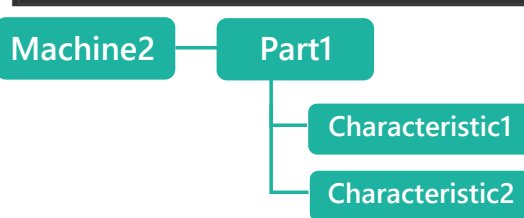
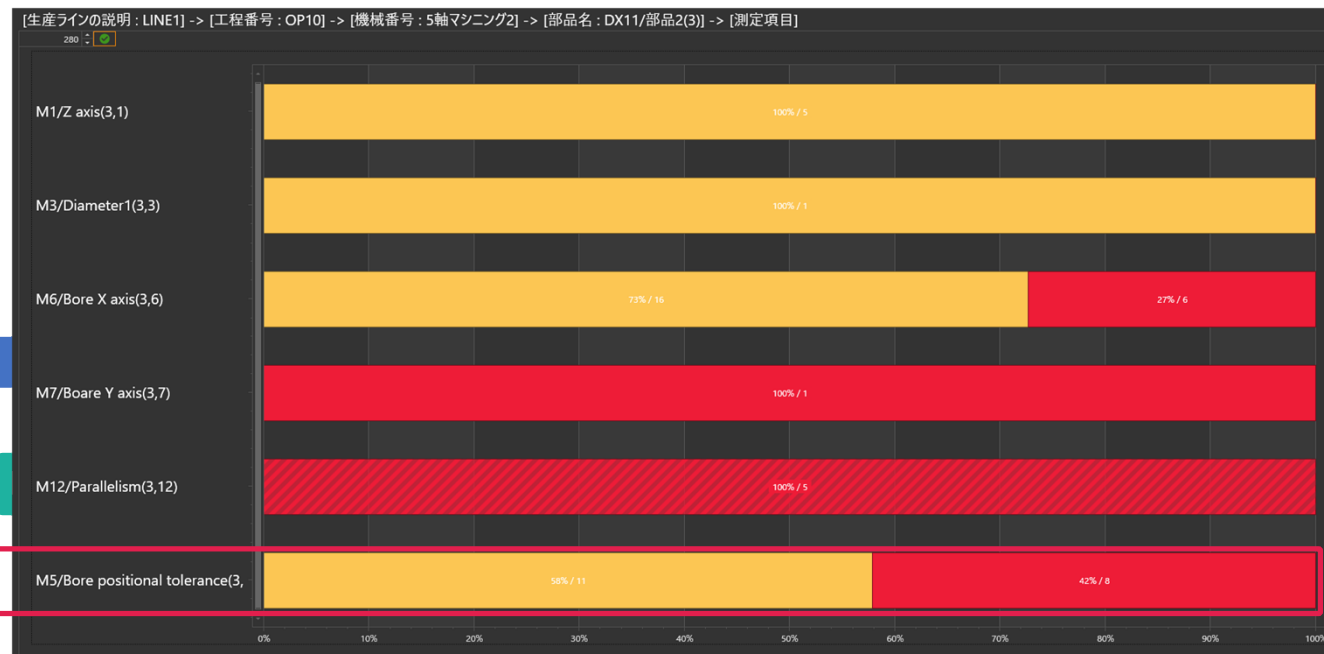
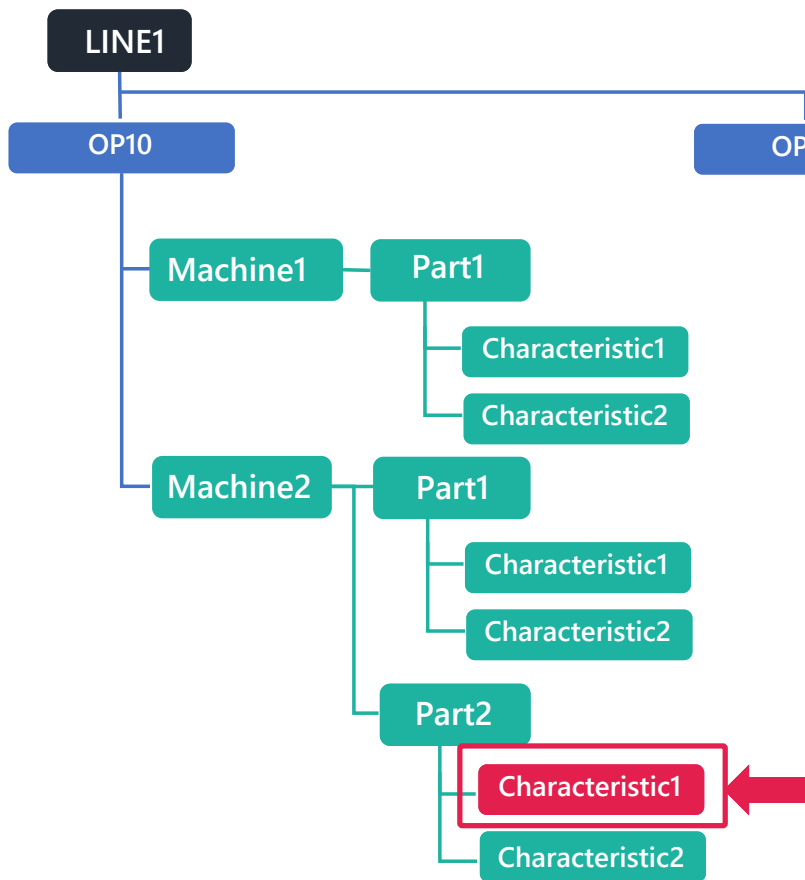












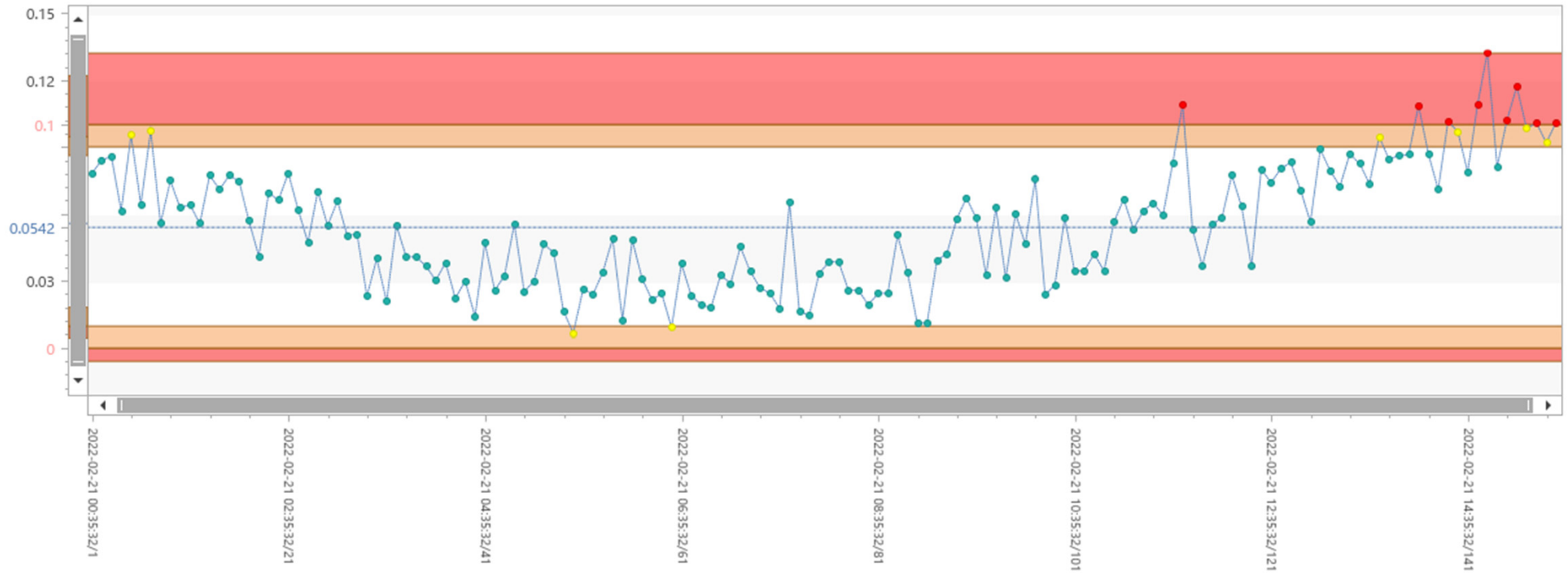
Data details

[Line : LINE1] -> [Detailed process ID : OP10] -> [Machine number : Machine 1] -> [Part : P10L1W1/部品2(92)] -> [Characteristics : M5/Bore positional tolerance(92,5)] -> [Value]

Value Chart Value list QCC Chart 2D Positional Tolerance Cp/Cpk

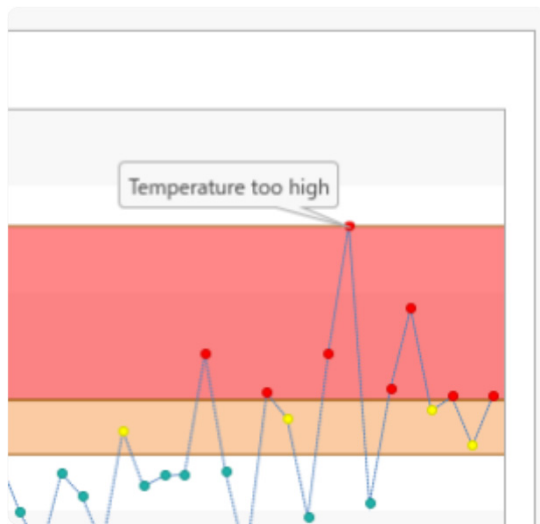
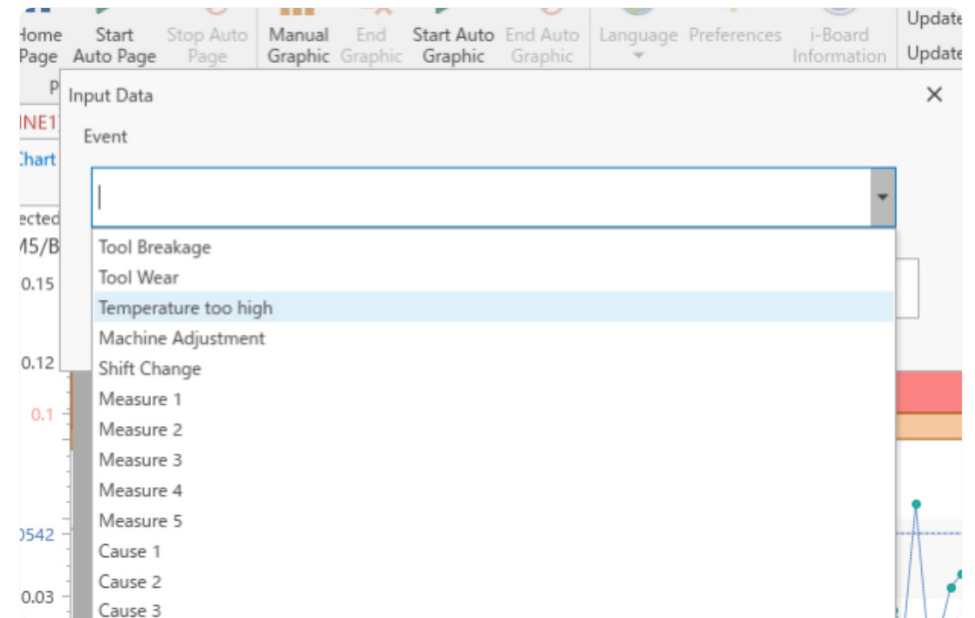
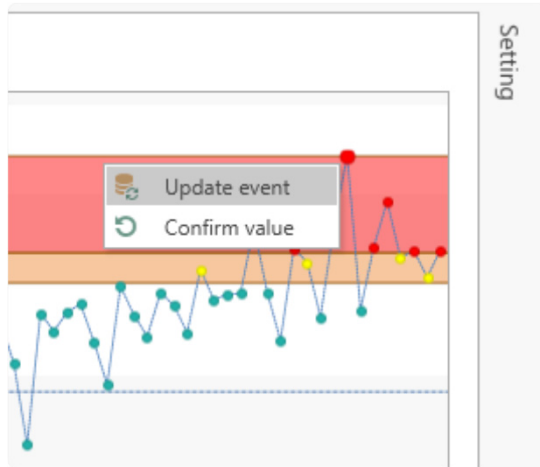
Not selected.

M5/Bore positional tolerance



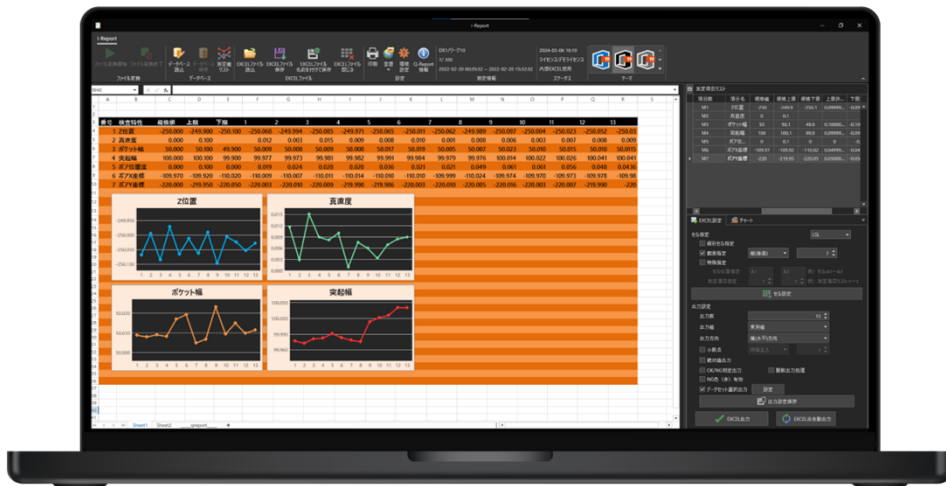
Setting

Insert events



i-Report

INDEQS
i-REPORT

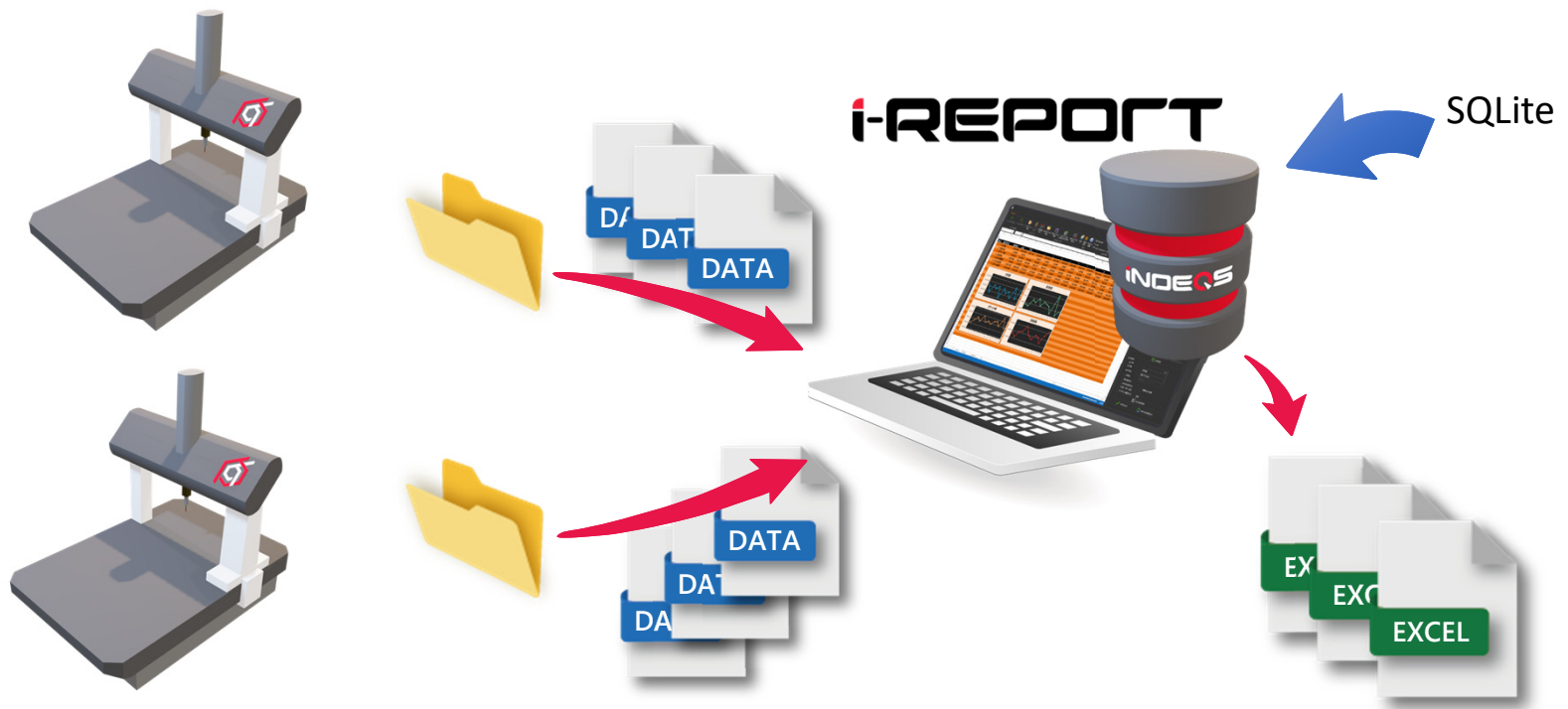


Reporting manager for EXCEL

- You can use your own Excel report templates.
 - ▶ Output data to the specified cells in the specified sheets.
 - ▶ Ideal for creating inspection reports.
- Automated data capture
 - ▶ Built-in data collection and mapping capabilities
 - ▶ Direct data files import functions from major CMMs.
- Low-cost and easy to introduce, even for small-scale production.
 - ▶ Ideal as an entry model for the first data utilization.
 - ▶ Completes on a single PC. No dedicated IT staff is required.
- Use only the good parts of EXCEL.
 - ▶ Data are managed in a database so that data won't be scattered.
 - ▶ No extensive training is required.

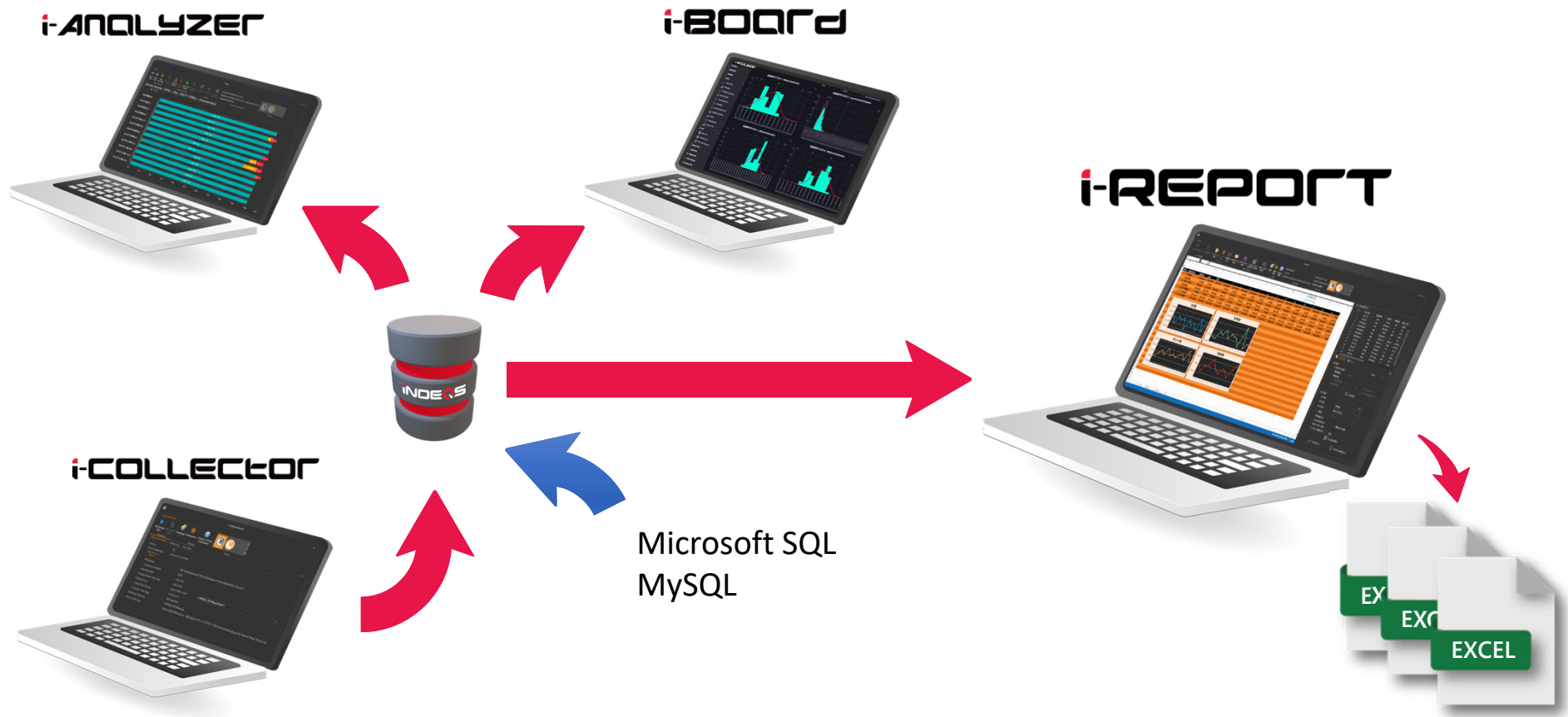
i-Report : stand-alone

Output interface to EXCEL for small systems.

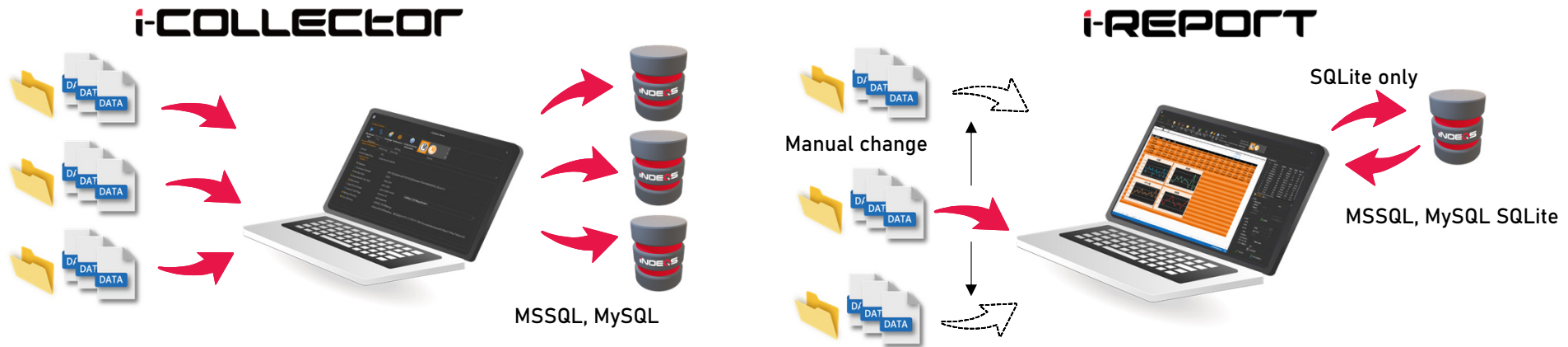


i-Report server: a part of complex system

Excel report creation module for large systems

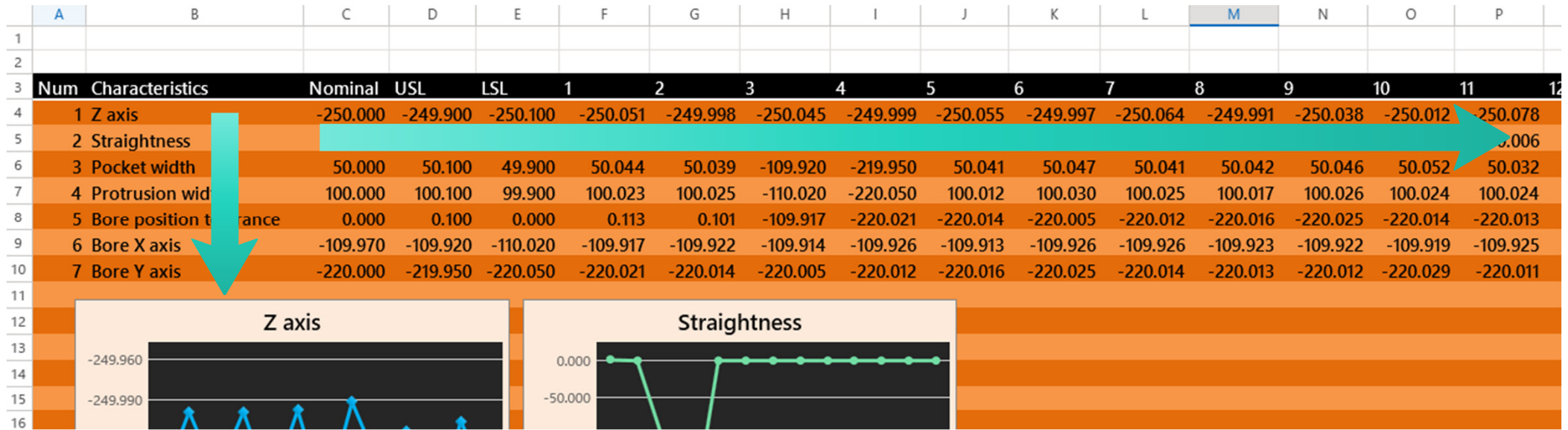


i-Report VS i-Collector



Product	i-Collector	i-Report
	Multiple DB	Single DB
	Handle multiple data formats and multiple upload settings	Single format at a time and single upload setting
	Fully automatic data collection	Half automatic data collection
	MSSQL / MySQL	SQLite: Read/Write MySQL, MSSQL: Read only
	Data collection only	Data collection and Export function to EXCEL
	Complex but powerful	Easy to use
	Require i-Analyzer, i-Board, or i-Report	Able to work as standalone software.
	Suitable for complex systems or multiple measurement devices	Standalone: Suitable for single or 2, 3 measurement devices. Module: A part of the software in the complex system.

Easy data output settings

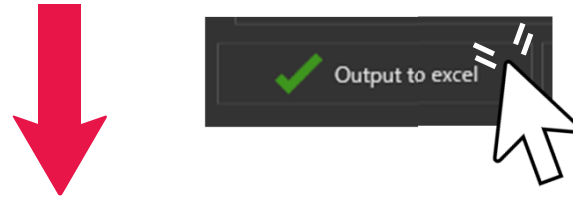


- Simply specify...
 - ▶ output direction of characteristics
 - ▶ output direction of the data
 - ▶ number of data
- You can use your own report forms.
- i-Report remembers the sheet and cells to output
- Quickly adapt the changes in report forms

One-click data output

	A	B	C	D	E	F	G	H	I
1									
2									
	Num	Characteristics	Nominal	USL	LSL	1	2	3	4
4	1	Z axis							
5	2	Straightness							
6	3	Pocket width							
7	4	Protrusion width							
8	5	Bore position tolerance							
9	6	Bore X axis							
10	7	Bore Y axis							
11									
12		Z axis						Straightness	
13									

Cha...	Cell	Char.No	Char.De...	Nominal	Up.spec...
1	F4/Sheet1*C4...	M1	Z axis	-250	-249.9
2	F5/Sheet1*C5...	M2	Straight...	0	0.1
3	F6/Sheet1*C6...	M3	Pocket...	50	50.1
4	F7/Sheet1*C7...	M4	Protrusi...	100	100.1
5	F8/Sheet1*C8...	M5	Bore po...	0	0.1
6	F9/Sheet1*C9...	M6	Bore X...	-109.97	-109.92
7	F10/Sheet1*C...	M7	Boare Y...	-220	-219.95
8	Not used	M8	Groove...	10	10.1
9	Not used	M9	Pocket...	5.5	5.6
10	Not used	M10	Pin loca...	-100	-99.9
11	Not used	M11	Pin loca...	0.03	0.13
12	Not used	M12	Paralleli...	0	0.18
13	Not used	M15	Bore Po...		



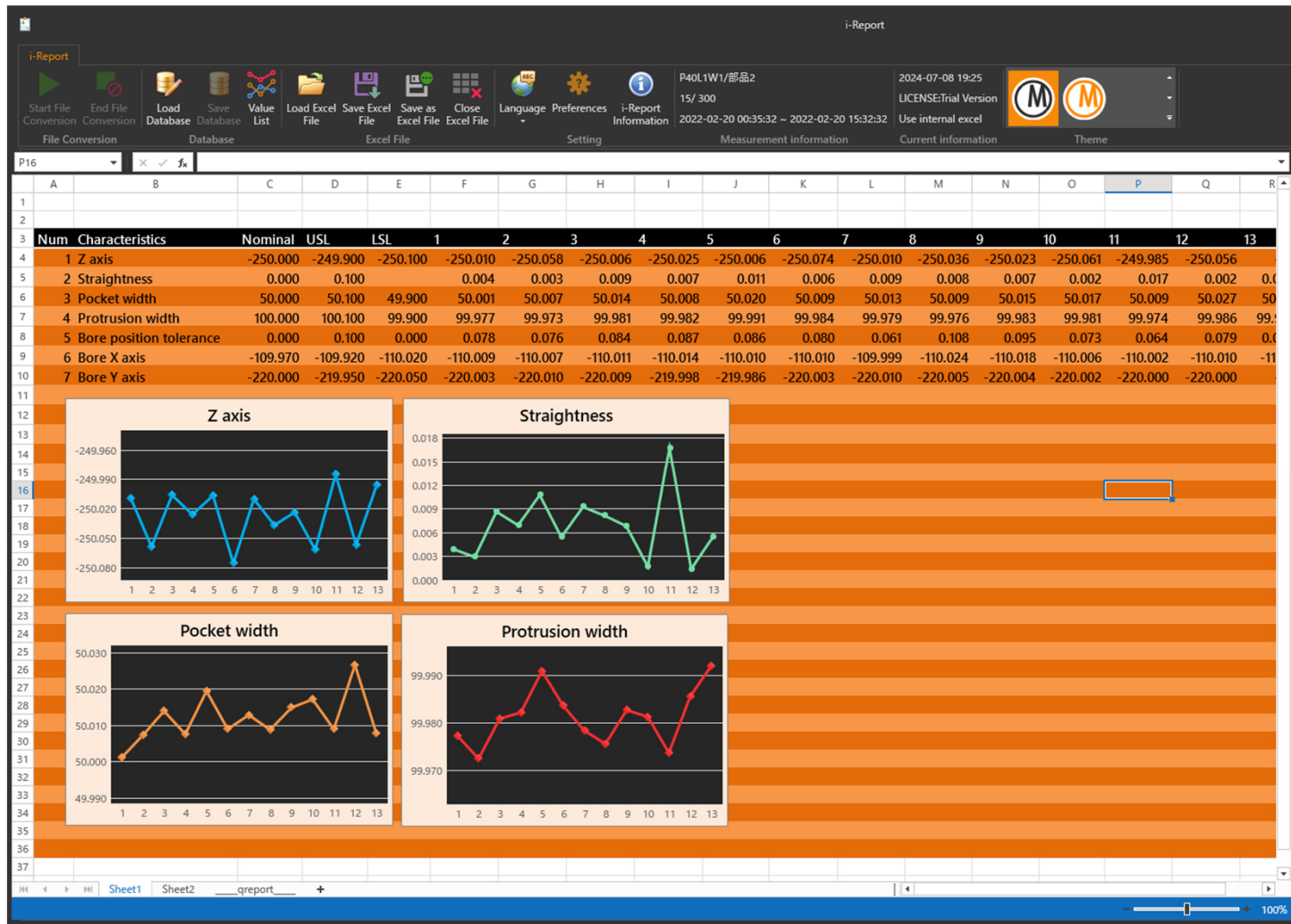
	A	B	C	D	E	F	G	H	I
1									
2									
	Num	Characteristics	Nominal	USL	LSL	1	2	3	4
4	1	Z axis	-250.000	-249.900	-250.100	-250.051	-249.998	-250.045	-249.999
5	2	Straightness	0.000	0.100		1.000	0.005	-109.970	-220.000
6	3	Pocket width	50.000	50.100	49.900	50.044	50.039	-109.920	-219.950
7	4	Protrusion width	100.000	100.100	99.900	100.023	100.025	-110.020	-220.050
8	5	Bore position tolerance	0.000	0.100	0.000	0.113	0.101	-109.917	-220.021
9	6	Bore X axis	-109.970	-109.920	-110.020	-109.917	-109.922	-109.914	-109.926
10	7	Bore Y axis	-220.000	-219.950	-220.050	-220.021	-220.014	-220.005	-220.012
11									
12		Z axis						Straightness	
13									

Cha...	Cell	Char.No	Char.De...	Nominal	Up.spec...
1	F4/Sheet1*C4...	M1	Z axis	-250	-249.9
2	F5/Sheet1*C5...	M2	Straight...	0	0.1
3	F6/Sheet1*C6...	M3	Pocket...	50	50.1
4	F7/Sheet1*C7...	M4	Protrusi...	100	100.1
5	F8/Sheet1*C8...	M5	Bore po...	0	0.1
6	F9/Sheet1*C9...	M6	Bore X...	-109.97	-109.92
7	F10/Sheet1*C...	M7	Boare Y...	-220	-219.95
8	Not used	M8	Groove...	10	10.1
9	Not used	M9	Pocket...	5.5	5.6
10	Not used	M10	Pin loca...	-100	-99.9
11	Not used	M11	Pin loca...	0.03	0.13
12	Not used	M12	Paralleli...	0	0.18
13	Not used	M15	Bore Po...		

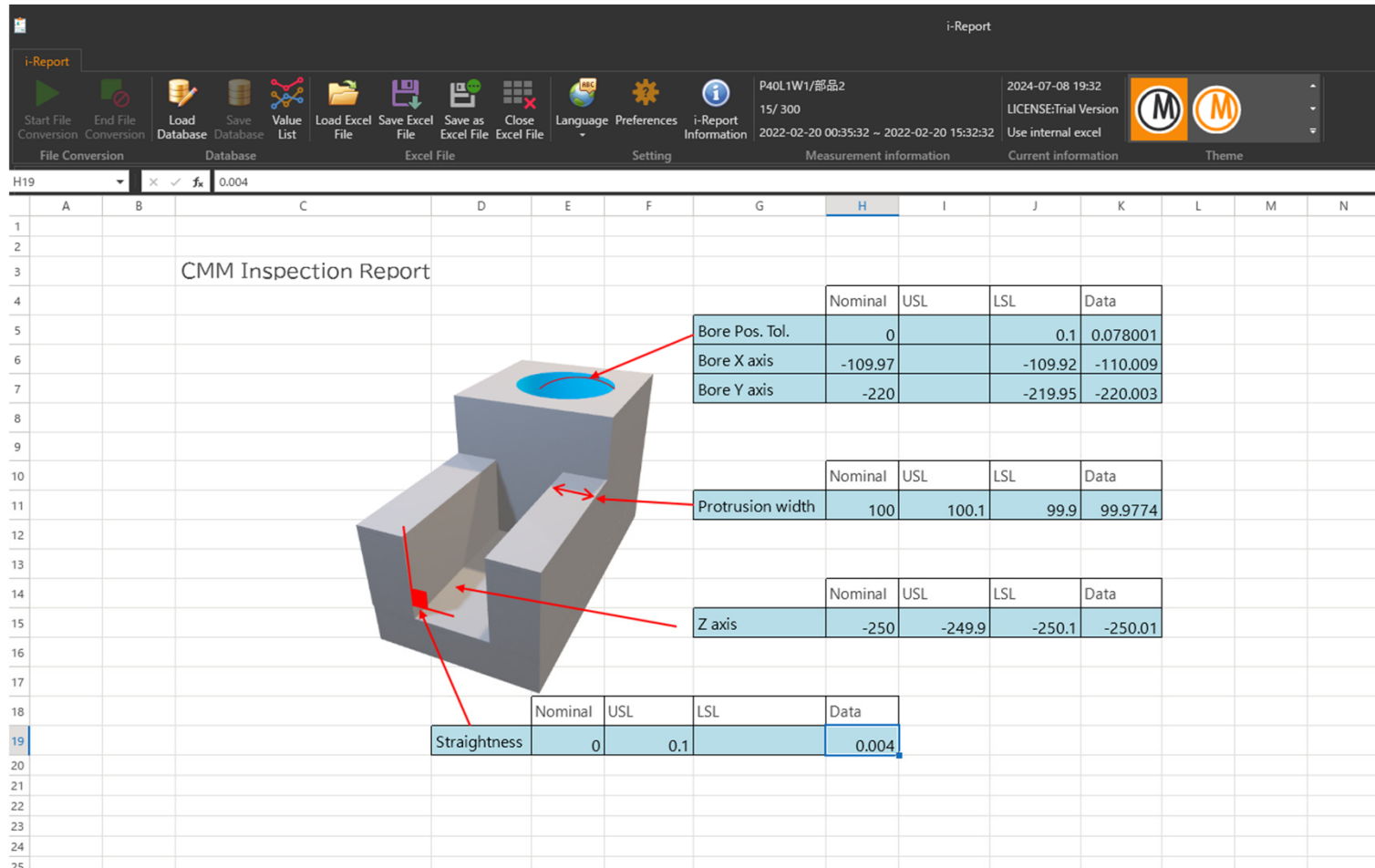
Output to Vertical form

[illegible]

Output to Horizontal form



Output to Irregular form



INDEQS Advantages

Automatic data collection and structuring

- Flexible data structure design for the practical analysis
 - ▶ Data structure design focused on the industrial process data
 - ▶ INDEQS can either supplement or discard data as needed.

Follow changes in data structure

- Reduce software modification costs.
- Keep up with additions and changes to inspected characteristics automatically.

Traceability

- A piece of data in quality control is not just a plot on a trend graph.
 - ▶ All data are fully traceable.

Easy operation

- Quality Managers $\neq$ Data Scientists
 - ▶ Focus on the functions truly required for the quality control.
 - ▶ Avoid excessive software training.
- Quick learning and longer retention of the software operation.

Questions and inquiries

Web: <https://processartz.com/contact-page/>

Email: inquiry@processartz.com



Process **Artz** Co. Ltd.

〒130-0026

Tobu High Line Ryogoku Bldg. 201

3-18-4 Ryogoku, Sumida-ku,

130-0026, Tokyo