

Data Collection



Define and execute data collection plans

Overview

During manufacturing operations, there is a large amount of data that is generated. This data is very valuable, and it's required for the purposes of quality, traceability, monitoring, control, root-cause analysis, and continuous improvement. As an integral part of the Manufacturing Execution System (MES), all collected data is highly contextualized, thus enabling all sorts of correlations.

Data Collection allows predefined data collections to take place at certain processing points (e.g.: at Track-In or Track-Out) using context resolution. It also supports the capture of data at any time using an ad-hoc data collection. Data can be collected manually or automatically via automation.

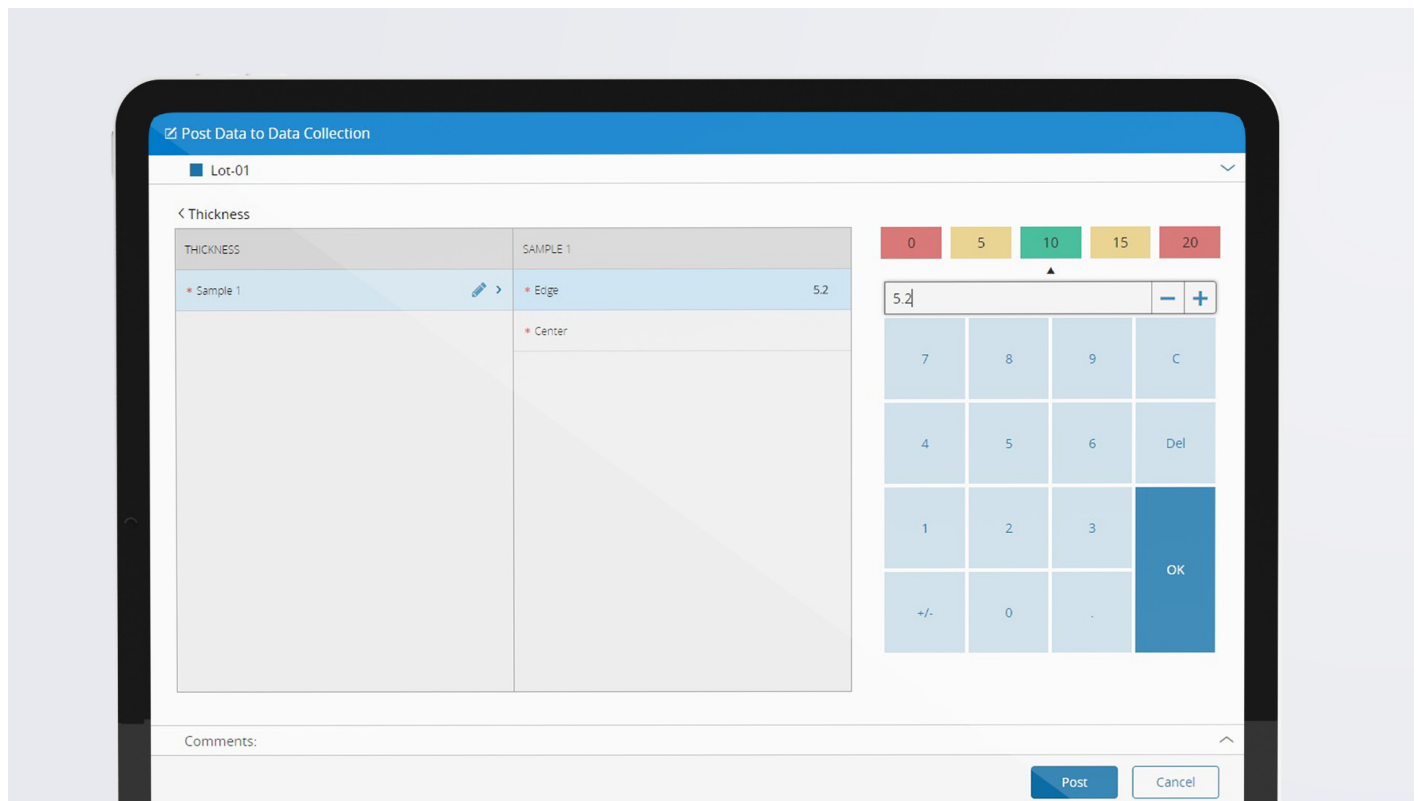


Figure 1 Data Collection screen example

Key Features

- Support for qualitative and quantitative parameters, with validation tables and ranges for the acceptable data values.
- Support for to capture data over a long period of time (long running) or in one snapshot (immediate).
- Support for optional and mandatory parameters, with flexible number of samples and readings.
- Support for parameter groups and calculated parameters.
- Support for flexible data collection limits with different validation ranges and different parameter limits.
- Support for manual and automatic data collection.
- Integrated with Material Tracking, Resource Tracking, Maintenance Management and SPC.
- Integration with Exception Management, with the capability of opening a Protocol Instance automatically in case that there is a limit violation.

Benefits

- Increased operational efficiency
- Reduction in the opportunity for errors
- Improved process control
- Faster speed of learning
- Enabler for root-cause analysis, data analysis and continuous improvement

The screenshot displays the 'Data Collection' interface within a software application. At the top, there is a navigation bar with 'Dispatch and Track-In Material' and tabs for 'RESOURCE' and 'DATA COLLECTION'. Below this, a breadcrumb trail shows 'MDLOT-2020001 (Queued) / MOSRM8HP (MOSRM8HQ Product) / Inspection / 100 Units'. The main area is titled 'Data Collection' and contains a table with three columns: 'DATA COLLECTION', 'WIDTH (MM)', and 'SAMPLE 1'. The table lists parameters like 'Tensile Strength (Pascals)', 'Width (mm)', and 'Length (mm)', with corresponding sample readings (104 mm, 106 mm, 105 mm). To the right of the table is a numeric keypad with a display showing '105' and a unit 'mm'. The keypad includes digits 0-9, '+/-', a decimal point, and 'C', 'Del', and 'OK' buttons. Below the keypad, there are 'Cancel', '< Back', and 'Track-In' buttons. A status bar at the bottom indicates 'Last entered value: Width > Sample 1 > Reading 3 > 105 mm'.

DATA COLLECTION	WIDTH (MM)	SAMPLE 1
* Tensile Strength (Pascals)	* Sample 1	* Reading 1
* Width (mm)		* Reading 2
* Length (mm)		* Reading 3

Width > Sample 1 > Reading 3

90 100 105

105 mm

7 8 9 C

4 5 6 Del

1 2 3 OK

+/- 0 .

Cancel < Back Track-In

Last entered value: Width > Sample 1 > Reading 3 > 105 mm

Comments:

Figure 2 Data Collection integration with track-in