



Adroit Report Suite

OEE Report Pack

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Contents

1.	Introduction.....	3
1.1.	Adroit Technologies	3
1.2.	Adroit SCADA.....	3
2.	Adroit Report Deployment Utility	4
3.	OEE Reports Switchboard.....	5
3.1.	OEE Transaction Report	6
3.1.1.	Report Component and Measures	6
3.1.2.	Report Parameters.....	6
3.1.3.	Report Layout.....	6
3.2.	KPI Summary Report	7
3.2.1.	Report Component and Measures	7
3.2.2.	Report Parameters.....	7
3.2.3.	Report Layout.....	7
3.3.	OEE Dashboard Report	8
3.3.1.	Report Component and Measures	8
3.3.2.	Report Parameters.....	8
3.3.3.	Report Layout.....	8
3.4.	OEE Alarm Detail Report	9
3.4.1.	Report Component and Measures	9
3.4.2.	Report Parameters.....	9
3.4.3.	Report Layout.....	10
4.	Support Detail.....	11

1. Introduction

Overall Equipment Effectiveness (OEE) is a measurement of how effectively a single piece of equipment, or a group of equipment, and even how an entire factory is being utilised. This takes into account all losses in downtime, speed and quality and can, therefore, be used for analysis and benchmark.

OR measure a specific KPI Key Performance Indicator, a quantifiable measurement that measures how well something is accomplishing its goals and objectives. In other words, individual OEE agents can be applied to any component or part of a process for which a variable denoting a measurement of output is available. The measured KPI can either compare actual performance with benchmark figures or compare shift performances or today's performance with the previous day or the previous day's shifts.

OEE is a percentage determined by the cumulative impact of the following factors:

- **Availability** is the percentage of the actual running time of the monitored equipment and/or factory. So this factor is decreased by the activities that cause unplanned downtime.
- **Performance** is the percentage of how often the monitored equipment and/or factory performs at optimum speed. So this factor is decreased by the all the factors preventing the equipment and/or factory from running at optimal speed.
- **Quality** is the percentage of good quality items produced by the monitored equipment and/or factory. So this factor is decreased by the amount of produced waste or bad quality and scrapped items.

$$\text{OEE\%} = \text{Availability\%} \times \text{Performance\%} \times \text{Quality\%}$$

1.1. Adroit Technologies

Since 1992 Adroit Technologies, a company based in South Africa, have been developing SCADA/HMI software solutions for the industrial automation and process control industries. With over 20,000 successful installations, in over 16 countries in the world, Adroit is one of the world's top-selling SCADA/HMI products.

Adroit Technologies are a Microsoft Certified Gold Partner Company. This allows Adroit Technologies to stay in regular contact with Microsoft and remain up to date with the latest advancements in software development. All this ensures that Adroit remains one of the leading SCADA packages, both now and in the future.

1.2. Adroit SCADA

A·D·R·O·I·T is an acronym for "Advanced Distributed Real-time Object-oriented Intelligent Toolkit".

Adroit is a Windows-based SCADA/HMI software product that has been developed over a period of more than ten years by dedicated professionals. Robust and flexible enough for the toughest industrial application, Adroit is the ideal platform from which to meet the information needs of a modern control solution. Adroit is a technologically advanced SCADA (Supervisory Control & Data Acquisition) system designed for process control, manufacturing systems and open automation applications.

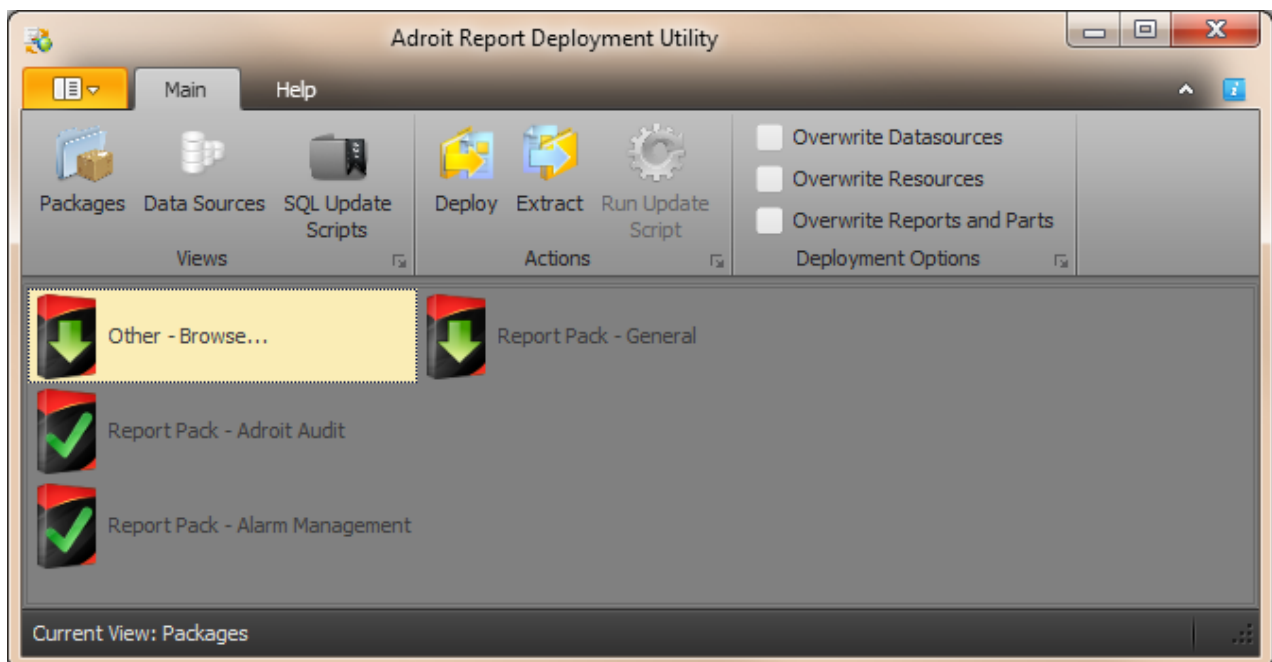
Developed specifically for Windows operating systems, Adroit has a flexible object-oriented client-server architecture that supports from a standalone implementation to an installation spanning multiple sites.

2. Adroit Report Deployment Utility

- The Adroit Report Deployment Utility function is to help you create and deploy Report Packs. These report packs consist of Reporting Services' reports, data sources and components. The utility interfaces with SQL Reporting Services' web service.

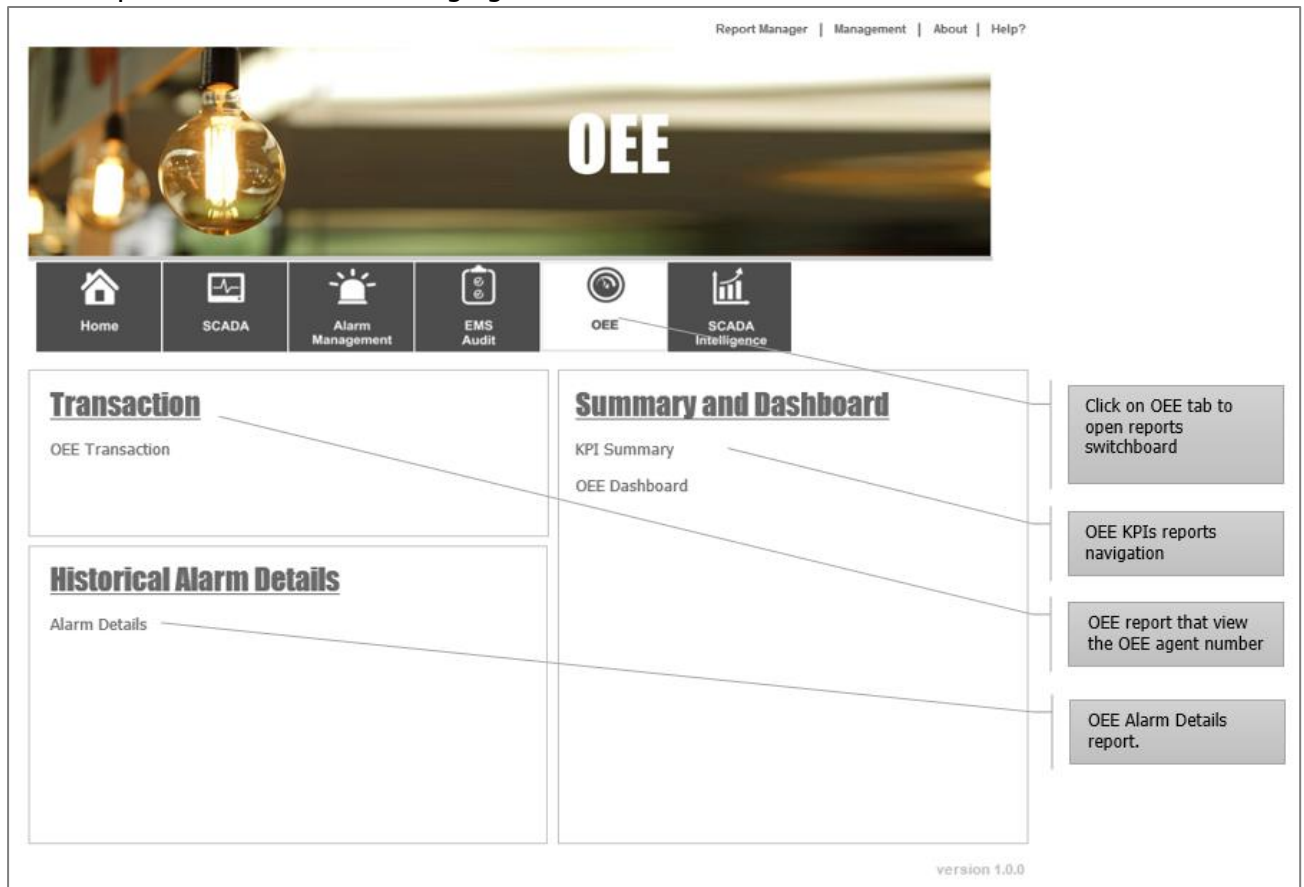


- The Adroit Report Deployment Utility will help you with the more complex tasks of managing your SQL Server Reporting Services.
- For more detailed information, please consult the user Manual document for this utility available to download from our website.



3. OEE Reports Switchboard

The general report switchboard is the navigation menu system for Adroit's general reports which includes standard reports on the Adroit DB Log agent data.



3.1. OEE Transaction Report

The OEE transaction report measures the equipment's downtime, running time and availability. It also measures the OEE agent's KPI on Actual per hour, Target per hour and success rate. The report shows the overall performance.

3.1.1. Report Component and Measures

Transaction

Data grid -.the summary of OEE agent's Duration (hour), Output, KPI and Overall

3.1.2. Report Parameters

Date From and Date To

Specify a date range by picking "Date From" and "Date To". OEE agents are included in the report provided they are dated on or after "Date From" and before "Date To".

Agent

This is a list of all the active and enabled OEE agents.

Group By

These are option are used to run the report against.

Record Type

The record that the report can be run against.

3.1.3. Report Layout

Switchboard Manage Report
Adroit Report Suite
OEE Transaction Detail
KPI/OEE data
Report generated at 2017/03/08 02:18:48 PM

Report period - from selected start time to selected end time

Date Time	Agent	Product	Batch	Shift	DURATION (hour)			OUTPUT		KPI			Overall			
					Available	Running	Downtime	Good	Reject	Actual/hr	Target/hr	Percent	Quality	Performance	Availability	OEE
2017/03/08					25.00	22.00	3.00	1562	0			65.8%	88.6%	62.3%	96.6%	50.7%
2017/03/09 11:42:59 AM	BATCH_OEE	_Blank		1	0.00	0.00	0.00	0	0	0.0	100	0.0%	0.0%	0.0%	0.0%	0.0%
2017/03/09 11:44:00 AM	BATCH_OEE	_Blank		1	0.22	0.18	0.04	0	0	0.0	100	0.0%	90.0%	0.0%	81.5%	0.0%
2017/03/09 11:44:59 AM	BATCH_OEE	_Blank		1	0.24	0.19	0.05	0	0	0.0	100	0.0%	90.0%	0.0%	79.0%	0.0%
2017/03/09 11:46:00 AM	BATCH_OEE	_Blank		1	0.26	0.21	0.05	2	0	9.7	100	9.7%	90.0%	9.3%	80.4%	6.7%
	BATCH_OEE	_Blank		1	0.27	0.22	0.05	1	0	4.5	100	4.5%	90.0%	4.3%	81.4%	3.2%
	BATCH_OEE	_Blank		1	0.29	0.24	0.05	2	0	8.5	100	8.5%	90.0%	8.2%	81.3%	6.0%
	BATCH_OEE	_Blank		1	0.31	0.25	0.05	3	0	11.9	100	11.9%	90.0%	11.4%	82.3%	8.5%
	BATCH_OEE	_Blank		1	0.32	0.27	0.05	5	0	18.6	100	18.6%	90.0%	17.9%	83.1%	13.4%
2017/03/09 11:51:00 AM	BATCH_OEE	_Blank		1	0.34	0.29	0.05	6	0	21.0	100	21.0%	90.0%	20.2%	84.0%	15.3%
2017/03/09 11:51:59 AM	BATCH_OEE	_Blank		1	0.36	0.30	0.05	7	0	23.2	100	23.2%	90.0%	22.3%	84.7%	17.0%
2017/03/09 11:53:00 AM	BATCH_OEE	_Blank		1	0.37	0.32	0.05	9	0	28.3	100	28.3%	90.0%	27.2%	85.3%	20.9%
2017/03/09 11:53:59 AM	BATCH_OEE	_Blank		1	0.39	0.33	0.06	10	0	29.9	100	29.9%	90.0%	28.7%	85.9%	22.2%

OEE Agent Information

Overall performance, quality, availability of the OEE agent

KPI of the OEE agent

Duration (hour) of the OEE agent

3.2. KPI Summary Report

The KPI summary report measures the actual and average performance of the OEE agent.

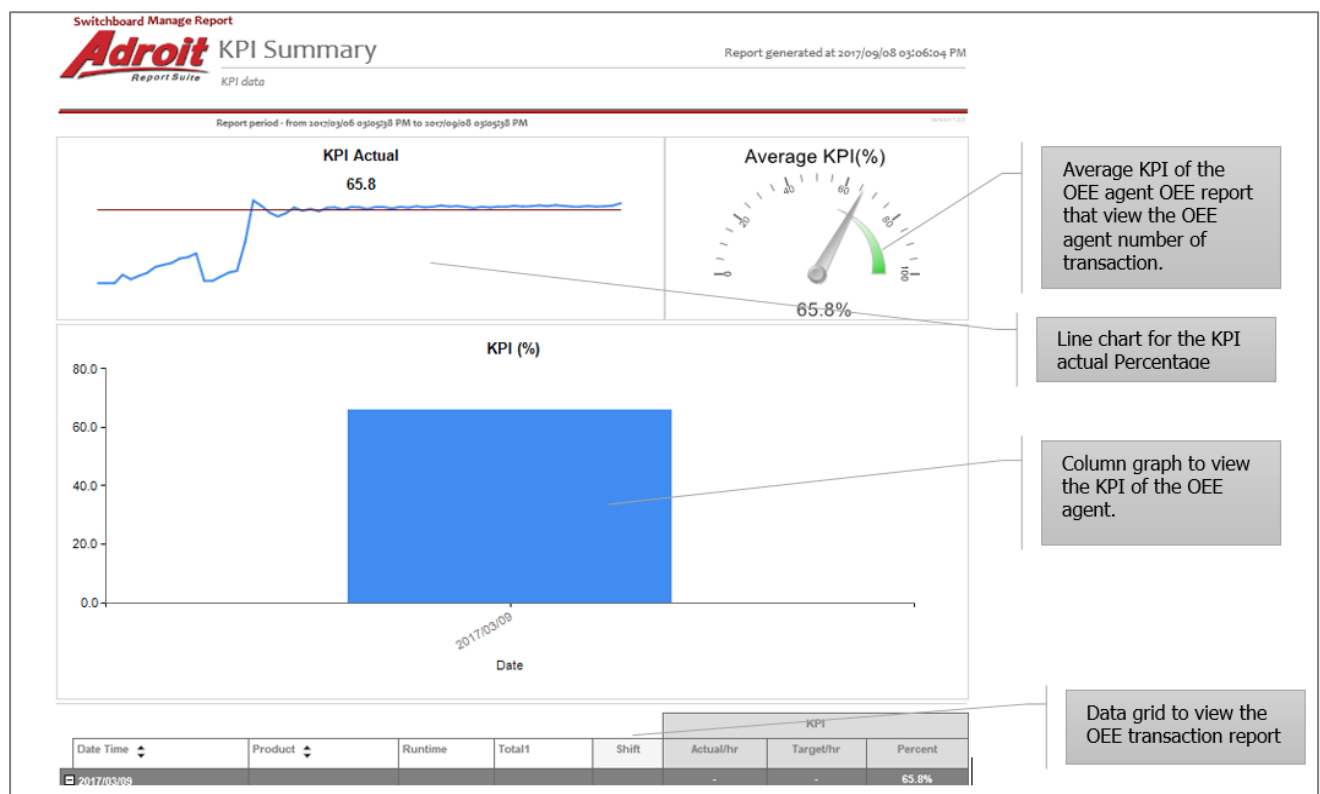
3.2.1. Report Component and Measures

KPI Actual	KPI Average (%)
Line chart – shows the KPI actual performance.	Gauge – summarises the KPI average percentage.
KPI (%)	OEE transaction
Column chart – the graphic view of the KPI, the user can click on the column chart to drill through to the OEE transaction.	Data Grid – shows the OEE transaction report.

3.2.2. Report Parameters

Date From and Date To	Agent
Specify a date range by picking "Date From" and "Date To". OEE agents are included in the report provided they are dated on or after "Date From" and before "Date To".	This is a list of all the active and enabled OEE agents.
Group By	Record Type
These are option of grouping that the can used to run the report against.	The record that the report can be run against.

3.2.3. Report Layout



3.3. OEE Dashboard Report

The OEE dashboard report summarises the overall quality, performance, availability and average of the OEE agent.

3.3.1. Report Component and Measures

OEE Quality (%)	OEE Performance (%)
Gauge – summarises the OEE Agent quality percentage.	Gauge – summarises the OEE agent performance percentage.
OEE Average (%)	OEE Availability (%)
Gauge – summarises the OEE agent Average percentage.	Gauge – summarises the OEE agent availability percentage.
OEE (%)	OEE Transaction
Column chart - The overall performance of OEE agent per shift. The user can still click on the chart to drill through to the OEE transaction report.	Data Grid – view the OEE transaction report.

3.3.2. Report Parameters

Date From and Date To	Agent
Specify a date range by picking "Date From" and "Date To". OEE agents are included in the report provided they are dated on or after "Date From" and before "Date To".	This is a list of all the active and enabled OEE agents.
Record Type	
The record that the report can be run against	

3.3.3. Report Layout



3.4. OEE Alarm Detail Report

This report summarises incidents for the user selected Category (or Categories) in top Detail Report. This report highlights incidents distribution (per hour) over the selected period for the selected incidents.

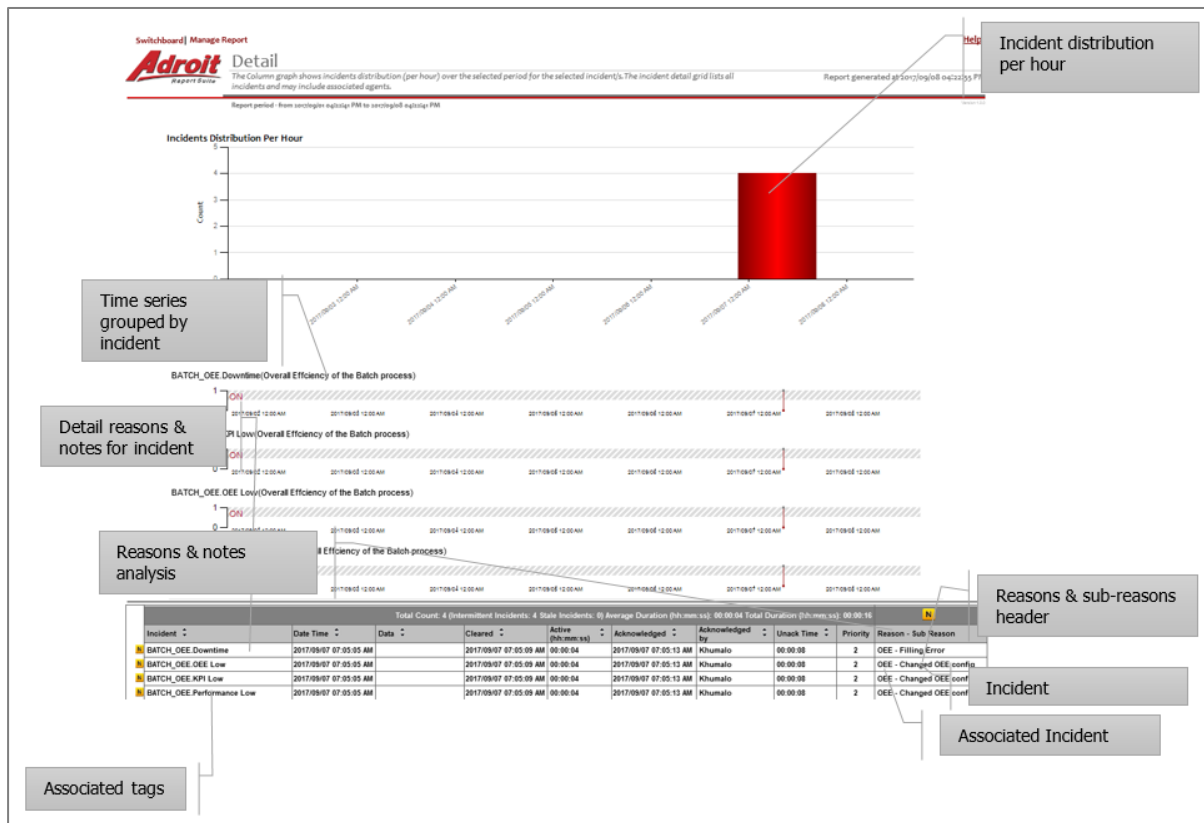
3.4.1. Report Component and Measures

Incidents Distribution Per Hour
Data Grid – Summarises the incidents distribution per hour, incident count on the y-axis and time on the x-axis.
Time Series
Displays the incident state over time for the selected time period.
Incident Detail
Data Grid – This report is summarised for the selected criteria into a grid. Data on the grid is grouped by incident and ordered by occurrence. The grid shows assigned reasons and notes per incident.

3.4.2. Report Parameters

Date From and Date To	Alarm or Event
Specify a date range by picking "Date From" and "Date To". Incidents are included in the report provided they are dated on or after "Date From" and before "Date To".	Report on alarms, events or both by selecting the appropriate option from the dropdown.
Show Associated Agents	
Click to include or exclude associated agents in the grid.	
Filter Category	Filter Alarm Type
This is a list of categories. If a parent category is selected all incidents in the parent and child categories will be included in the report.	This is a list of alarm types. Select at least one or more alarm type/s.
Filter Incident	Priority
This is a list of incidents with reasons and notes.	Select all or a particular alarm priority to run the report against.

3.4.3. Report Layout



4. Support Detail

For further support, contact our Technical Support Desk on 011-658-8100 or email support@adroit.co.za.

You can also visit our website, follow us on Twitter, find us on Facebook or connect with us on LinkedIn.

