



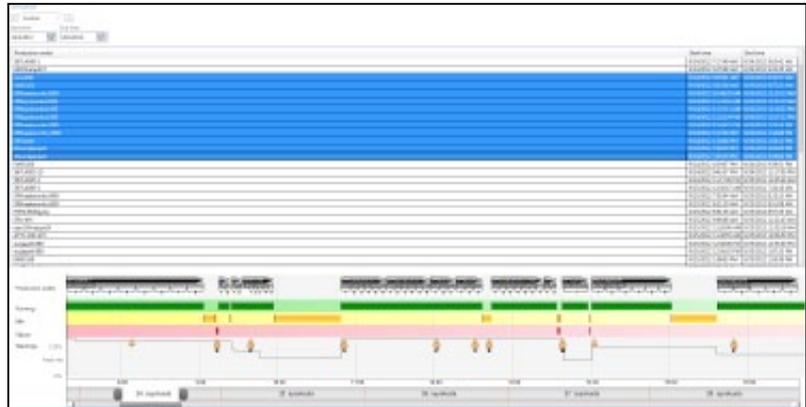
The Bend  
The Combi  
The Laser  
The Punch  
The System  
The Software

# Prima Power Tulus® Performance Reporting

Tulus® Performance Reporting gives a huge amount of information available about machine performance and utilization rate. It creates reports on machine efficiency and utilization and gives accurate information about machine performance.

It allows analyzing where improvement is possible for production planning and where tool maintenance would be helpful.

The machine time report gives detailed information on, for example, what production orders and NC programs are used in the production and what the machine feed rate has been.



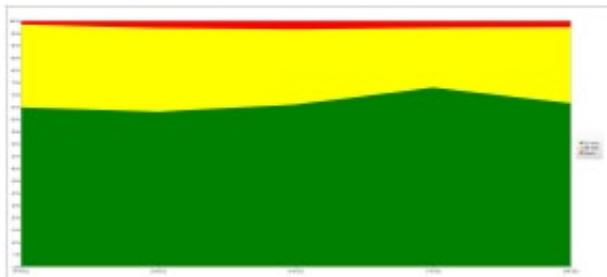
Also machine failure and idle times are specified in the reports. Thus no machine idle time remains unexplained. Performance Reporting reports all machine time, including processing, idle, and fault times.

Processing time is recorded when the machine is actively running. Idle time is defined as the time when the machine is ready for machining. Faults are automatically recorded and timed by machine status.

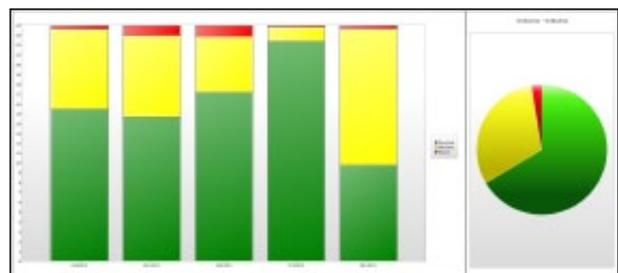


Idle times can be defined by the user to describe the reason why the machine was idle, for example: lunch or coffee break, tooling change, stacking area clearance etc. Fault error messages are recorded to identify what alarms occurred during this time.

The trend report shows values of the full date range selected in graphical format. The run, idle, and failure times of the machine are given in cumulative format.

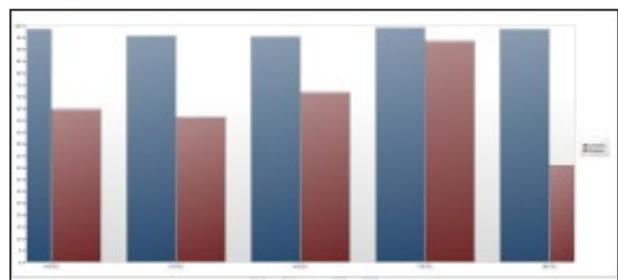


The machine time summary report displays the machine run, idle- and failure times graphically on weekly basis.



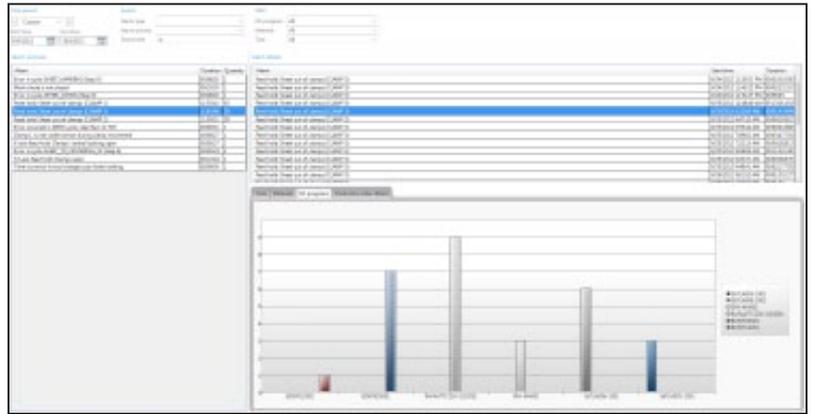
The utilization statistics report displays the machine run time in comparison with the total time within a selected time period.

Utilization rate and availability are represented with colours: Utilization rate is shown in red and availability in blue.



Utilization rate = run time compared to total time (24h/day)  
 Availability = (total time - failure time) / total time (absolute availability)

Alarm history data is available as a graphical report. It shows when the alarm occurred, for how long it lasted, which NC program was active then, and which tool and material was used when the alarm occurred. With this information, the reason why the alarm occurred, can be found.



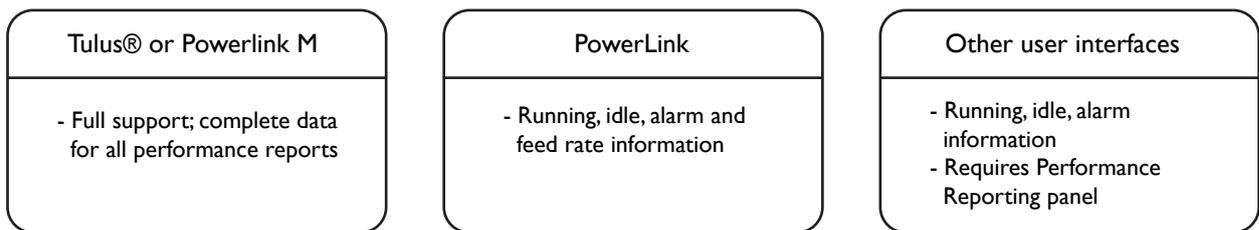
Alarm history can be reviewed to help maintenance departments be proactive in reacting to recurring alarms.

Alarm analysis reports help quickly to identify and track the problem area is and can be tracked per date and time stamp.

### Installation & Data collection

Tulus® Performance Reporting can be installed on the machine computer and on the Tulus® Office computer. It can also be installed on any computer as an individual application. Users can access multiple machines with one software package which retrieves the data mentioned above.

The data necessary for performance reports is collected from the machines. The amount of data which can be retrieved from a machine depends on which user interface the machine is using:



### Performance Reporting panel

Prima Power provides a Performance Reporting panel as a third-party performance reporting tool. This product can collect run, idle, and fault times for reporting. Reason codes can be defined for idle and fault times for a more detailed reporting. This software package can be used on any non-Tulus® or non-PowerLink machine.

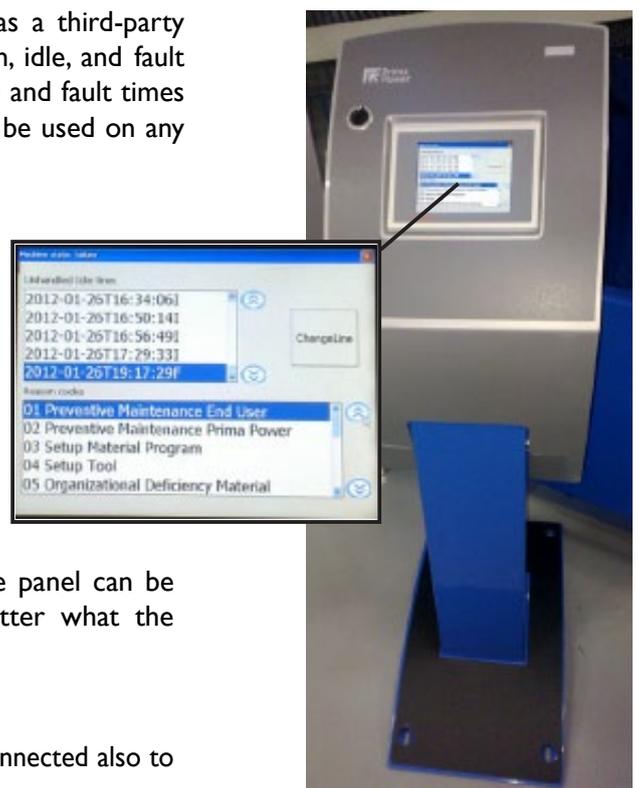
The Performance Reporting panel allows third party equipment to be connected to Tulus® Office to gather production data.

This panel can be used with any machine as long as the running, idle and alarm states are available. These three states can be retrieved by wiring the machine outputs of the state in question.

When these three states are available, the Performance panel can be used for monitoring the machine productivity no matter what the machine is.

Note:

Any machine with a Performance Reporting panel can be connected also to the Tulus® Web Information System application.



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