

CAMLIN[®] ADC

The next generation automated data collection



CAMLIN[®] ADC

Uncovers the truth about your production!

CAMLIN[®] ADC

Key features

System architecture

The system is based on Microsoft Windows (NT4, 2000) user interface using TCP/IP protocol. Client/Server database system is used; MS-SQL database environment being the basic solution. The environment is open; hence, our customers have the possibility to create their own reports from the data saved in the system. The system hardware consists of PCs operating in local area network and peripheral equipment connected to them. Such equipment can be e.g. PLC, I/O equipment, bar code readers and mobile device.

Data collection

Data is collected automatically from the machine tools connected to the system. Basic data can be collected with PLC. The more detailed data collection is possible from machine tools, to which it is possible to create a more advanced connection (Ethernet, HSSB or separately defined DNC link). It is also possible to insert data manually. The data collected from machine tools can be e.g.

- Mains on
- Automatic job cycle. Name / number of a NC program
- Failure
- Pallet change
- Starting, ending, suspending a job, series etc.
- Starting and ending preventive maintenance

Main features

Machine status

- Machine status in 24 hours, 7 days, 30 days, or selected time period. Utilization, availability, MTBF, MDT.
- Real time display shows the status of a selected machine group in real time. Display can be either a system layout or rows.
- Failures in a certain period of time

Production data

- Work pieces manufactured or a number of them in a certain time period
- Time needed for series or product:
 - Automation time
 - Failure time / NC program, item and tool
 - Number of failures
 - Pass through time

Maintenance data

- Failure history
- Wait history
- Reporting of failures and waits
- Service call: SMS / Email

Reporting to other systems

It is possible to bring for example cell's or machine's work queue from enterprise resource planning system (ERP) to the shop floor for manual reporting. Starting, ending and the number of manufactured work pieces can in turn be reported back to ERP.

The CAMLINE[®] ADC machine monitoring system will tell you in depth, how your production machines are performing. In fact you can analyze the production system as a whole, see where the weak links are and where there is unused capacity. In other words, CAMLINE[®] ADC hands you the keys to improve efficiency.

Automatic and precise monitoring of the production system

When decisions have to be made about the development of production, the only real basis is to collect data about the actual working of the system. In order to improve efficiency, you need to know what is really going on in production. CAMLINE[®] ADC (ADC=Automated Data Collection) is intended for automatic data collection from production machines. It collects information about machine working, usage, down-time and about faults that arise, producing reliable and in corruptible data about the machine utilization and condition.

CAMLIN[®] ADC combines traditional, automatic machine monitoring system and manually inserted production phases. It enables extremely detailed production monitoring: with the help of the CAMLINE[®] ADC system, you can address machine time and failures to a certain work piece, tool or NC program, and hence receive valuable information about the manufacturing methods and their development possibilities.

Why automatically?

In practice, it has been noticed that manual and operator based registering of utilization and failure times does not produce right results: filling paper note books is the first thing that is postponed due to "more important" jobs, and after the first interest the data collection may be stopped completely. Also very short but perhaps frequently occurring failures are almost without exception unnoticed in the manual book keeping, even though the total down time caused by these short failures might be very considerable.

With CAMLINE[®] ADC, data can be collected easily, clearly and reliably from the selected machine or time interval. The data and their summaries can immediately be used by those who need it.

See the true influence!

A reliable and real time data of the capacity utilization can be used in many operations in your company. It can be used e.g. for maintenance and production planning, manufacturing method development and investment planning. Why acquire new and expensive machines if there is unused capacity in existing ones!

With the CAMLINE[®] ADC system you know your own level; how the changes made affect on productivity. When the real effects can immediately be seen, there is no need to guess things anymore.



With the "Machine data" function, the status of the selected machine can be viewed from the previous 24 hours time. The data shows how much the machine has been in operation during that time, how long the machine has been in failure and how long the power has been on without the machine been in operation or in failure. Utilization and availability are counted.

NC Program	Automation	Failure	Summary
_N_13686_MPF	0 h 7 min 1%	2 h 5 min 11%	20 h 8 min
_N_G114892_MPF	46 h 0 min 24%	5 h 12 min 3%	188 h 2 min
_N_G11489211_MPF	33 h 14 min 18%	5 h 13 min 3%	187 h 6 min
_N_G1148922_MPF	27 h 5 min 7%	52 h 21 min 14%	381 h 18 min
_N_G1148923_MPF	45 h 16 min 17%	13 h 13 min 5%	273 h 0 min
_N_G1148924_MPF	46 h 11 min 15%	7 h 2 min 2%	318 h 17 min
_N_G114892KDE_MPF	2 h 11 min 33%	0 h 5 min 3%	7 h 9 min
_N_G1187311_MPF	5 h 3 min 5%	0 h 21 min 1%	94 h 13 min
_N_G1187312_MPF	9 h 9 min 6%	0 h 3 min 0%	146 h 4 min
_N_G1187313_MPF	15 h 6 min 8%	0 h 3 min 0%	186 h 17 min
_N_G1187314_MPF	17 h 11 min 47%	1 h 13 min 4%	37 h 3 min

The CAMLINE[®] ADC system has extremely detailed reporting possibilities. The reports and history reports can be created e.g. by machine, by product, by order or by employee. The time interval can be defined by the user. Above, the report created by machine shows the NC program data of the selected machine from November 16th 2002 to December 16th 2002.

CAMLIN[®] ProSUITE

True production integration

Modern user interface

CAMLIN[®] ProSUITE is a system that integrates different CAMLIN[®] products into the same Explorer-like user interface. The basic principle in CAMLIN[®] ProSUITE is the hierarchical layout that enables monitoring data by product, machine, cell and factory levels. Different product modules can be integrated to CAMLIN[®] ProSUITE in the order that suits the customer best.

The system is based on Microsoft Windows (NT4, 2000) user interface using TCP/IP protocol. The basic solution used is MS-SQL database environment.

Unbreakable chain between shop floor and administration

CAMLIN[®] ProSUITE can be connected to enterprise administrative systems. In practice, the connection between the enterprise resource planning system (ERP) and the manufacturing process means the possibility to bring for example cells or machines work queue from ERP to the shop floor. Correspondingly, starting, ending and the number of manufactured work pieces can be reported back to ERP. These kinds of possibilities become useful for example when specifying production planning, defining capacities or when deciding about the new investments. Likewise, if production breaks occur, the situation can immediately be seen also in company administration and necessary actions can be taken at short notice.

CAMLIN[®] ADC user interface

The user interface is divided into three sections. Function buttons are situated on the top edge of the interface. Information section displays the results of different functions, e.g. machine data of CAMLIN[®] ADC system. Menu tree on the left has the following levels:

1. Software modules e.g. CAMLIN[®] ADC,
2. Factory; i.e. the list of the factories that have machines connected to a certain product,
3. Cells; i.e. the group of machines situated in the same factory and
4. Machines; i.e. the machines in a certain cell.



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CAMLIN[®] ADC

Make use of all your production capacity!

