

Checkbot

Web application for tracking Yaskawa robots

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Sales, Development, Support
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Checkbot – basic properties of the application

- Real-time robot tracking
- History and graphs
- Alarms
- Preventive and predictive maintenance
- Planning and records
- Event notifications
- IP camera surveillance
- Overview and efficiency of production

Real-time robot monitoring

- Ongoing tasks, Current values of variables and signals

Checkbot Robots Plans Charts Messages Notifications Locations Users Help JBI editor admin

Robots Monitoring: Timer: 2000ms

Name ↑↓	Controller ↑↓	Status ↑↓	Maintenance ↑↓	Tools
<input type="text"/>	<input type="text"/>			
Motoman DX200-54	DX200	On		<input type="button" value="🔍"/> <input type="button" value="✎"/> <input type="button" value="✕"/>
Motoman FS100-50	FS100	On		<input type="button" value="🔍"/> <input type="button" value="✎"/> <input type="button" value="✕"/>
Motoman NX100-51	NX100	On		<input type="button" value="🔍"/> <input type="button" value="✎"/> <input type="button" value="✕"/>
Motoman YRC1000micro	YRC1000micro	On		<input type="button" value="🔍"/> <input type="button" value="✎"/> <input type="button" value="✕"/>

Count: 4

Plans

- Several model plans are prepared
- We are able to save various values of VARIABLES, REGISTERS, INPUT/OUTPUT signals irregularly
- Based on defined rules, multiple values may be set and these notifications are then recorded through the NOTIFICATION module.
- By way of defined plans, individual tasks are periodically launched and saved into the database. Collected data may be browsed using the Charts module.
- Using PLAN and collected and evaluated data, the NOTIFICATION module subsequently passes on email notifications to defined persons.

Plans

Checkbot

Robots

Plans

Charts

Messages

Notifications

Locations

Users

Help

Job editor

admin

Plans

+ Backup plan

+ Monitoring plan

Plan ↑↓	Type ↑↓	Tools				
Engine hours plan	Robot utilisation					
Monitoring plan	Monitoring					
Učíme se	Monitoring					
Temperature B050 a B051	Monitoring					
Testovací plán LJ	Monitoring					
Backup new	Backup					
Luděk test	Monitoring					
B050 a B051	Monitoring					

Charts

- Based on collected values, you can create various types of graphs. It is possible to display them according to time period and in various types.

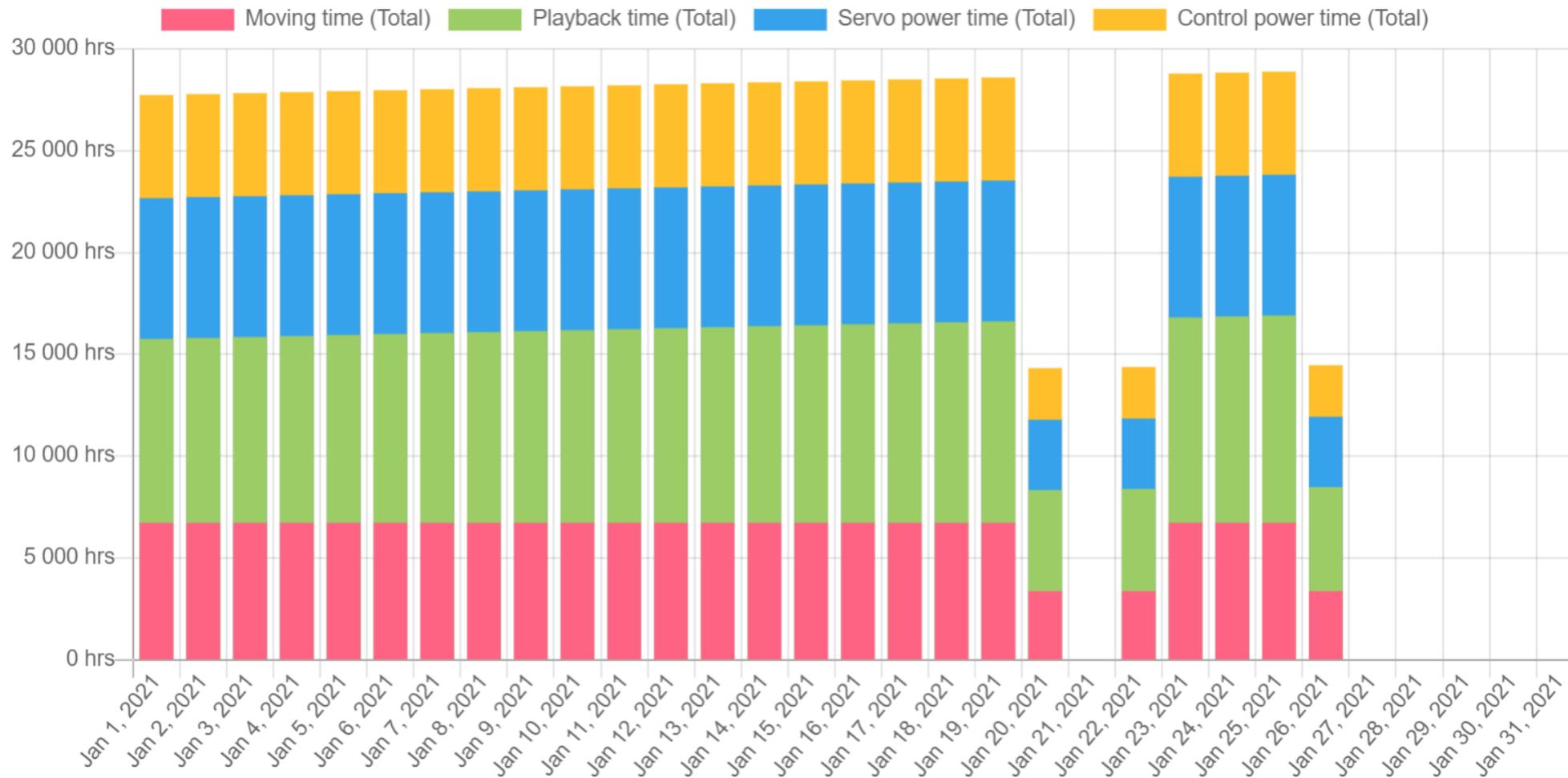
Checkbot Robots Plans **Charts** Messages Notifications Locations Users Help JBI editor admin

Charts + Chart

Name ↑↓	Source ↑↓	Type ↑↓	Unit ↑↓	Range ↑↓	Updated ↑↓	Tools
Graf - utilization	utilization	stack	day	this_month	Dec 1, 2020, 7:36:21 AM	  
Graf - monitoring	plan	bar	month	previous_year	Jan 23, 2021, 1:25:23 AM	  
Údržba 1	maintenance	doughnut	day	this_month	Jan 22, 2020, 4:36:15 PM	  
Teploty B050 a B051	plan	line	month	custom	Nov 30, 2020, 11:46:54 PM	  
Maintenance	maintenance	doughnut	day	this_month	Feb 14, 2020, 6:46:18 AM	  
Luděk Test	plan	line	week	previous_year	Dec 15, 2020, 11:35:32 AM	  

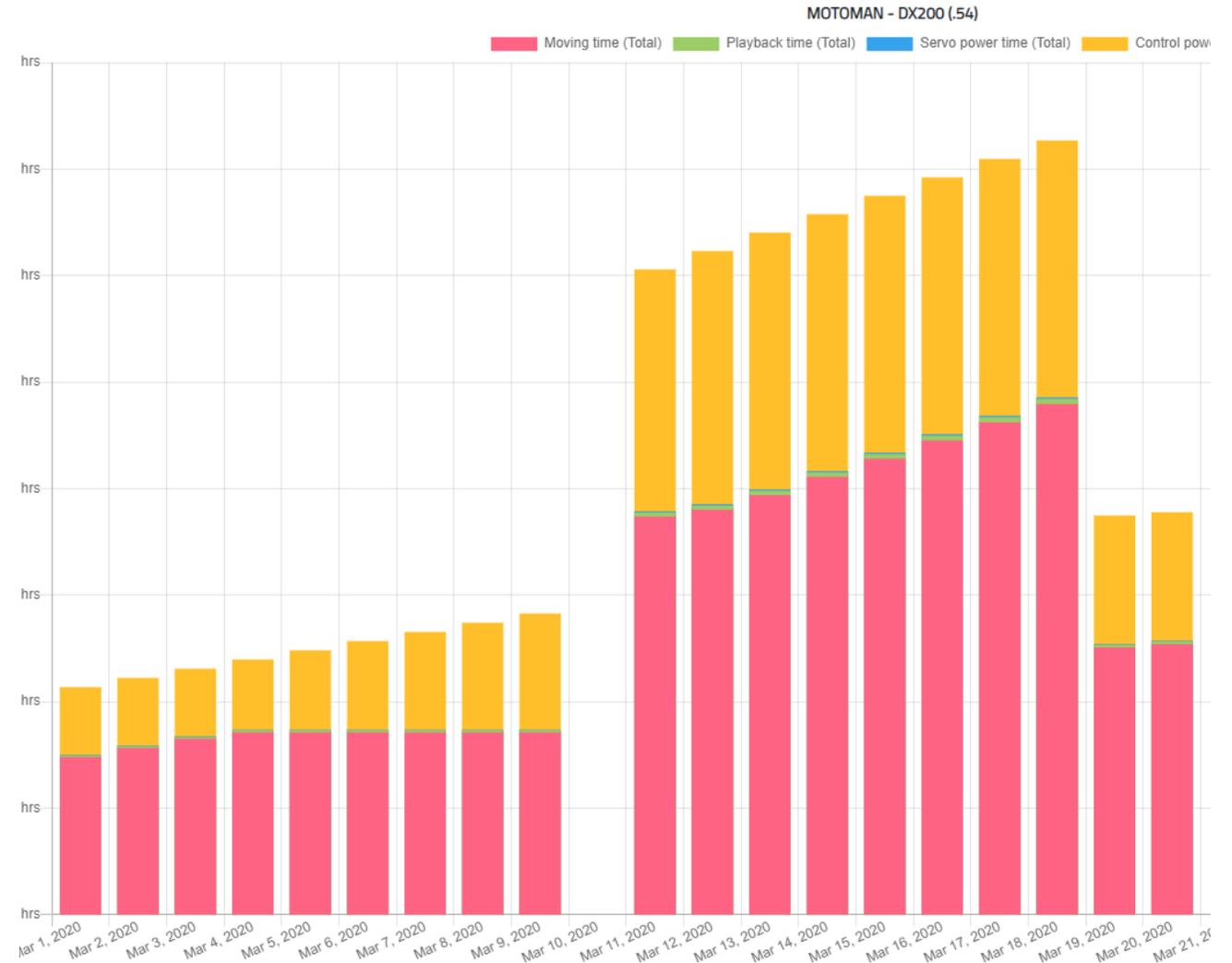
Charts

Motoman FS100-50



Task scheduling

- Operating hours
- Backup of drive control files
- Monitoring of values of variables, registers and signals
- Graphical display of monitored values



Messages

Filter

Time from: 

Time to: 

Severity:

Robot:

Category:

Message:

Status:

 Filter  Reset

Severity	Sent	Time ↑↓	Robot	Category	Send status	Message
 Error	>	Dec 11, 2020, 5:05:16 PM	Motoman YRC1000micro	Robot	Sent	OPERATING Off, ALARM On, SERVO_ON Off
 Error	>	Dec 11, 2020, 4:59:54 PM	Motoman YRC1000micro	Robot	Sent	OPERATING Off, ALARM On, SERVO_ON Off

Notifications

Edit notification

Description

B050 a B051

Recipients

Settings

+ Registered user

+ Unregistered user

Recipient no. 1



Unregistered user

melkes@oksystem.cz

Email melkes@oksystem.cz



+ Email

Recipient no. 2



Registered user

kouba

Email kouba@oksystem.cz



+ User email

+ Email

Edit notification

Description

B050 a B051

Recipients

Settings

General

Robot & Robot type

Plan

Activate plan notification settings

Select a plan



+ Plan

B050 a B051



Variable notifications

Variable number- 50, Variable type - Byte

Locations

Checkbot

Robots

Plans

Charts

Messages

Notifications

Locations

Users

Help

JB1 editor

 admin 

Robot locations

 + Location

Name 	Address 	Comment 	Tools
<input type="text"/>	<input type="text"/>	<input type="text"/>	
OKsystem - server room			 
Virtual workplace			 
Count: 2			

Help

- Contains all user documentation (such as electronic handbook). Here it is possible to classify and choose according to controller type, name, content, etc.

Alarm remedies

Controller ↑↓	Code/No. ↑↓	Name ↑↓	Subcode ↑↓	Contents ↑↓	Meaning ↑↓	Cause ↑↓	Remedy ↑↓	Notes ↑↓
YRC1000micro ▾	11			error				
YRC1000micro	1101	SYSTEM ERROR(MAN-MACHINE MECHA)	12	An error occurred during the system control check.	Sub Code 0 to 19: Internal control error in software	Software operation error occurred	(1)Turn the power OFF then back ON. (2)If the alarm occurs again, save the CMOS.BIN, and then contact your Yaskawa representative about occurrence status (operating procedure).	SYSCON 
YRC1000micro	1102	SYSTEM ERROR(MAN-MACHINE APPLI)	12	An error occurred during the system control check.	Sub Code 0 to 16383: Internal control error in software	Software operation error occurred	(1)Turn the power OFF then back ON. (2)If the alarm occurs again, save the CMOS.BIN, and then contact your YASKAWA representative about occurrence status (operating procedure).	SYSCON 

Alarms

overview of current alarms, camera recording before their occurrence, complete history

Robot: Motoman YRC1000micro **On**

Monitoring: Timer: 2000ms



Current job: ZIVITELKA, at line: 42

Alarms⁰ I/O Variables Tasks and job Files Utilization Maintenance Camera Robot System Read data

Current **Detected** History



	Detected	Removed	Webcam
>	Jan 26, 2021, 1:36:00 PM	Jan 26, 2021, 1:41:55 PM	
>	Jan 25, 2021, 3:40:25 PM	Jan 26, 2021, 12:51:04 PM	

Alarms

overview of current alarms, camera recording before their occurrence, complete history

Camera 1

Recorded: Jan 26, 2021, 1:35:30 PM - Jan 26, 2021, 1:36:00 PM



00:29

00:30



Maintenance

- Scheduling service inspections after set operating hours or set time
- Notification of the need for a service inspection
- Record of performed service actions

MOTOMAN - DX200 (.54)

Cables
available: 33 months
elapsed: 3 months
maintenance: 36 months



Maintenance 06
available: 1,474 hrs
elapsed: 4,526 hrs
maintenance: 6,000 hrs



Maintenance 12
available: 7,474 hrs
elapsed: 4,526 hrs
maintenance: 12,000 hrs



Maintenance 24
available: 19,474 hrs
elapsed: 4,526 hrs
maintenance: 24,000 hrs



Maintenance 36
available: 31,474 hrs
elapsed: 4,526 hrs
maintenance: 36,000 hrs



MOTOMAN - FS100 (.50)

Cables
available: 31 months
elapsed: 5 months
maintenance: 36 months



Maintenance 06
available: 0 hrs
elapsed: 4,684 hrs
exceeded: 684 hrs
maintenance: 4,000 hrs



Maintenance 12
available: 0 hrs
elapsed: 211 hrs
exceeded: 167 hrs
maintenance: 44 hrs



Maintenance 24
available: 23,151 hrs
elapsed: 849 hrs
maintenance: 24,000 hrs



Maintenance 36
available: 31,316 hrs
elapsed: 4,684 hrs
maintenance: 36,000 hrs



Maintenance

Robot: Motoman DX200-54 On

Monitoring: Timer: 2000ms



Current job: BAF002, at line: 2

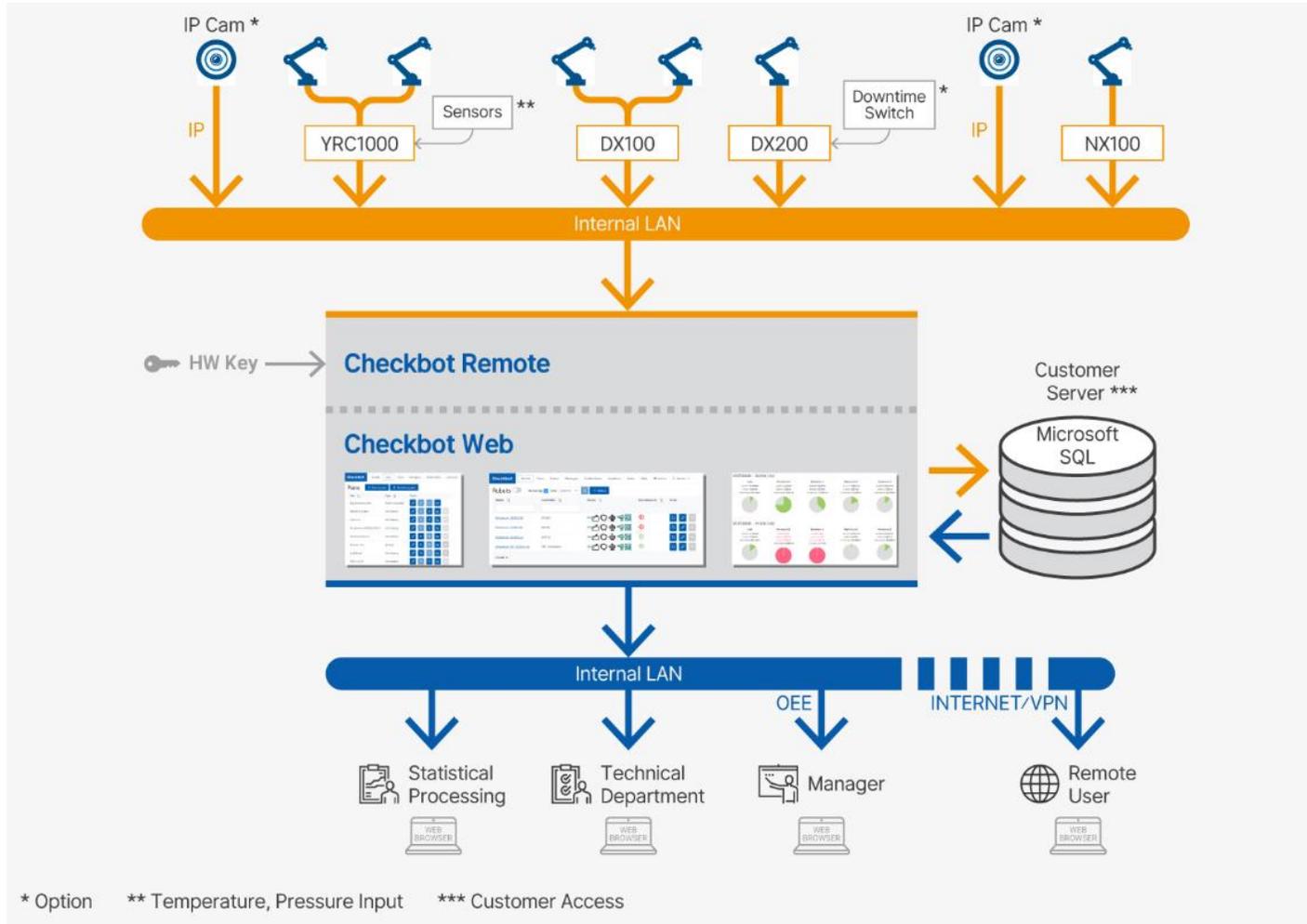
Alarms 0 I/O Variables Tasks and job Files Utilization **Maintenance** Camera Robot System Read data

Maintenance plans Maintenance log

[+ Maintenance plan](#)

Mnt state	Name	Operation time between maintenances	Overall time between maintenances	Last maintenance date	Total elapsed time	Maximum operation time to next maintenance	Next maintenance date	Tools
	Cables		14 of 36 months	Nov 22, 2019	14 months		Nov 22, 2019	
	Maintenance 06	8210 of 6000 hours		Nov 22, 2019	8595 hours	-2210 hours	Oct 2, 2020	
	Maintenance 12	8210 of 12000 hours		Nov 22, 2019	8595 hours	3790 hours	Aug 13, 2021	
	Maintenance 24	8210 of 24000 hours		Nov 22, 2019	8595 hours	15790 hours	May 6, 2023	
	Maintenance 36	8210 of 36000 hours		Nov 22, 2019	8595 hours	27790 hours	Jan 25, 2025	

Checkbot – schema



Supported controllers and database

- YRC1000
- YRC1000micro
- DX100
- DX200
- FS100
- NX100
- MS SQL
- H2

Application installation

■ HW key (dongle)

- To run the application you need to have a library **MotoComSDK V6.00 installed** or newer and a **HW key (dongle)** attached to the server. Upon agreement will provide OKsystem or Yaskawa Czech

■ License file

- The license file will be provided by agreement by OKsystem.
 - The license is provided for a contractual number of robots and for a definite period of time (license expiration date specified).

Installation conditions

- Before installing the application it is necessary to have prepared:
 - MotoComSDK V6.00 or newer (CD a HW key) – will be provided by OKsystem or Yaskawa.
 - Computer with Windows 7/10, min 4 GB RAM, connected to network.
 - !When monitoring robots using BSC interface (NX100 a další) it is necessary to have installed package Microsoft Visual C++ 2008 Redistributable - x86!
 - Robots must be on the network and accessible via IP address.
 - The installation package with the *Yaskawa robot monitoring application* – will be delivered by OKsystem.
 - Database MS SQL must be available.
 - License file – will be delivered by OKsystem.
 - Possibility of remote installation.

Benefits

- Real-time data collection from a robot, not just an informative display at a given point in time.
- All data are in the database and freely accessible for further processing.
- Predictive analysis elements enabling data collection and notifications, such as sending data about exceeded temperature, torque, current collection, etc., including their display.
- Web camera option with continuous streaming and a 30 second record before an event (such as an alarm).
- Overall equipment effectiveness (OEE) module in the final phase of development.

Contact information

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