WCC&M!

Wim Cranen, Controls & More!

Medio 2009 until now, running my own company.

Projects:

Company	:	**Hegenscheidt-MFD**
Activities	:	Coordination and leading of the electrical part of an upgrade for
	:	four machines, delivered in 1994.
	:	Two turn broach machines and two rolling machines.
Market/customer	:	Machinery for the automotive
Project name	:	WE 292001 and WE292002
Time and duration	:	Mid 2008 until end 2008
Assignment	:	Design and development, coordination and implementation on site
	:	of the electro technical part of the upgrade on four machines.
	:	Two machines were equipped with new motion systems.
	:	The servo motors were replaced by newer and more modern types
	:	and the syste was expanded by two servo motors.
	:	The old servo controller system was completely removed and a
	:	totally new and modern system was placed instead.
	:	Also the programming of this system was performed as the
	:	communication between PLC and motion controller. The screens in
	:	the HMI are adapted for the new situation.
	:	The other two machines were equipped with a new system for
	:	analog stroke detection with associated adaptions.
Way of working	:	Ordering lists were handed over to the German customer.
	:	Electrical design was hand written and prepared.
	:	Software was prepared at the office and tested in a simulation.
	:	During commissioning at site in Spain, all four machines were re-
	:	tooled and commissioned tested and accepted within three weeks.
	:	Also capability tests were done on all product types.
Value ACE	:	Adding recourses and knowledge on engineering, servo and lead
	:	engineering. The customer is a former employer.
	:	There were no former colleges left with knowledge of these
	:	particular machines and known issues of the process. That is why
	:	Hegenscheidt went to ACE. Attracting an "old" employee was a
	:	good hit and worked fine for the end customer (Ford).
	:	Ford was worried in an early stadium due to the lack of expertise of
	:	these machines left at Hegenscheidt.
	:	Knowledge of C2C2C (construction to commissioning to capability).
Resources used	:	Allen Bradley, Bosch Rexroth IndraWorks and IndraLogic.
	:	Ford programming specification STEPS (later version of EDDI).
Acceptance	:	October 2008

Company	:	**Brandfort Holding**
Activities	:	Maintenance and adding functionality on a ERP/CRM system in
	:	Filemaker.
Market/customer	:	Engineering company
Project name	:	WCC&M20090814
Time and duration	:	Mid 2009, 3 year
Assignment	:	Maintaining the system after the designer of it, left the company.
	:	During time, smaller and larger adaptions were necessary.
	:	This system was an own design and customized for this particular
	:	company. In the beginning of 2011, the management decide to replace
	:	this system. A new of the shelf system was started during 2012.
Way of working	:	Processing questions from the field, using a VPN connection.
Value WCC&M	:	Flexibility and actions outside of office hours.
Recourses used	:	Filemaker 8.5

Company	:	**Grace Engineering**
Activities	:	Deputy administrator.
Market/customer	:	Engineering company
Project name	:	WCC&M20100415
Time and duration	:	Med 2009, 4 year
Assignment	:	Maintaining the ICT system on moments that the administrator
	:	has his holidays or while he is ill.
Way of woring	:	Processing questions from the field, using a VPN connection.
	:	Presence at the office to support the users in the network
	:	assistance in case of problems. Installing systems.
Value WCC&M	:	Flexibility and actions outside of office hours.
Recourses used	:	All common and un-common mains in ICT.

Company	:	**Hegenscheidt-MFD**
Activities	:	Re-commissioning a turn broach machine after major maintenance.
Market/customer	:	Engineering for the automotive industry.
Project name	:	WCC&M20090825.
Time and duration	:	Mid 2009, 10 days
Assignment	:	Acceleration the start of production while having knowledge of the
	:	process and the machines.
Way of working	:	On site (Ford – Dagenham) performing IO test and starting the
	:	machine in logical phases.
Value WCC&M	:	Knowledge of the machines and the components used on them.
Recourses used	:	Allen Bradley RSLogix500 and Visual Motion.

Company	:	**Mora – Ad van Geloven - Maastricht**
Activities	:	Adapting the functionality of a machine, producing spring rolls.
Market/customer	:	Food.
Project name	:	WCC&M20091020
Time and duration	:	End 2010, mid 2011, end 2012, and end 2014 for a few days.
Assignment	:	Remove old functionality that is unwanted, expanding new functionality.
	:	Adaption of the TPD and keeping it up to date..
Way of working	:	On site, during stand still and maintenance of the machine.
Value WCC&M	:	Knowledge of the machine and the used controls system.
Recourses used	:	Indramat, Visual Motion

Company	:	**Hegenscheidt-MFD**
Activities	:	Getting a machine type 7891-3NC to function again after a complete
	:	software failure.
Market/customer	:	Engineering for the automotive industry.
Project name	:	WCC&M20100723.
Time and duration	:	Mid 2010, a few days.
Assignment	:	Getting the machine ready for production process.
Way of working	:	Restauration of the software from a back-up dated from 2002.
	:	Missing parameters were looked up or measured from schematic and
	:	physical measures
Value WCC&M	:	Knowledge of the machine and the equipped controller.
Recourses used	:	Knowledge of Siemens 820T, Siemens Step5.

Company	:	**Hegenscheidt-MFD**
Activities	:	Re- commissioning a straightening rolling machine type 7892 after major
	:	maintenance.
Market/customer	:	Engineering for the automotive industry.
Project name	:	WCC&M20100816
Time and duration	:	Eind 2010, one week.
Assignment	:	Re-commission the machine with the latest software
Way of working	:	Performing an IO test according to the electrical drawings
	:	and restart the machine in phases.
Value WCC&M	:	Knowledge of the machine and the controls.
Recourses used	:	RSLogix5.

Company	:	**ACE Ingenieurs en Adviseurs**
Activities	:	Performing a feasibility study and design and build a prototype
	:	for measuring the profile (bevel) of tubing for oil extraction.
Market/customer	:	Engineering company, the end customer is offshore
Project name	:	WCC&M20101118.
Time and duration	:	End 2010until mid 2012.
Assignment	:	Research on the possibilities to measure the bevel of a tube and record
	:	the results in a way to analyze them.
	:	The best possible way was chosen and translated to a prototype, which
	:	was tested at the oilrig. Results were analyzed.
Way of working	:	Research with engineering tools ass FMEA and VA/VE to find the best
	:	possible ways to measure the bevel of a tube.
	:	From the list of possibilities, chose the one with the best chances in a
	:	harsh environment like an oilrig.
	:	The choice was translated to a working prototype which was tested in
	:	the field (oilrig). The measurements of the tests were analyzed.
Value WCC&M	:	Adding electrical recourses and knowledge to the team of engineers.
Recourses used	:	Keyence 2D measuring system, Eagle for PCB's, Embedded systems on
	:	the basis of USBizi, Visual Studio, C#, .NETMF.

Company	:	**Meerssen Papier**
Activities	:	Replacement of a defective and obsolete Panelview screen.
Market/customer	:	Paper industry.
Project name	:	WCC&M20101231
Time and duration	:	Beginning of 2011, a few days
Assignment	:	Try to repair a Panelview screen. If this is not possible order a new one
	:	and reinstall it on site.
Way of working	:	Investigation on site to get a clear view of the problem. Repair seemed
	:	be impossible, due of lack on parts.
	:	Ordered an new one and reinstalled the available information in the new
	:	screen, in order to restore its function.
Value WCC&M	:	Knowledge of the particular version of Allen Bradley Panelview.
Recourses used	:	The correct measuring devices. Panelview software.

Company	:	**Hegenscheidt-MFD**
Activities	:	Getting an universal straightening rolling machine type 7891-3NC to do
	:	the trick again after failure of the straightening computer.
Market/customer	:	Engineering for the automotive industry.
Project name	:	WCC&M20110119
Time and duration	:	Beginning 2011, two weeks including the travel time.
Assignment	:	Short: make it run again.
Way of working	:	On site (Sakamoto Kyoritsu Seiki – Japan), analyze the situation and
	:	replace the parts that failed in the computer.
Value WCC&M	:	Knowledge of the machine and the controls systems
Recourses used	:	Siemens Step5, TeraTermPro for communication to the computer.
Extra info	:	This was two weeks before the tsunami

Company	:	**ACE Ingenieurs en Adviseurs**
Activities	:	Develop a small prototype machine to produce a very small amount of gas.
Market/customer	:	Engineering company, the end customer is in the food/pharma and produces instruments and supplies for conservation.
Project name	:	WCC&M20110801
Time and duration	:	Mid 2011, 9 month
Assignment	:	Develop and build a solution (prototype) for the production of a very small amount of gas.
Way of working	:	By engineering tools as FMEA and VA/VE we researched the possible ways. The best possible way was chosen together with the end customer and four prototypes were build. These prototypes were tested in the field
Value WCC&M	:	Experience in building prototypes, knowledge of electronics and the possibility to build this small apparatus quick and costs effective.
Recourses used	:	Eagle PCB design, Visual Studio, C#, microprocessor with .NETMF.

Company	:	**Sitech B.V. Geleen**
Activities	:	Maintaining DCS systems
Market/customer	:	(Petro) Chemical Industry
Project name	:	WCC&M20110404
Time and duration	:	Beginning of 2011, 1 year
Assignment	:	Maintain DCS systems on site of the Chemelot Plant, performing small changes to optimize production methods and output. Preparation of minor and major maintenence.
Way of working	:	On Chemelot site by all applicable standards an safety procedures.
Value WCC&M	:	Adding resources to the team on site.
Recourses used	:	Hima Safety PLC, Emerson Delta-V, Yokogawa Centum

Company	:	**Marel Further Processing**
Activities	:	Bringing the pilot run of a machine for packaging of sausages to life and leading the tests at site in the UK with a prospect.
Market/customer	:	Engineering for the food industry.
Project name	:	WCC&M20120316
Time and duration	:	Beginning of 2012, 3 month
Assignment	:	Bringing a pilot machine to life, with the partly prepared software from a prototype machine. Supervison of the tests with potential customers and streamline the customers' needs for additional functionality.
Way of working	:	On site commissioning and talking to potential customers.
Value WCC&M	:	Adding resources to the software development team of the R&D department of Marel.
Recourses used	:	PLC-, servo- and inverter technics, Lenze (Codesys), vision system Keyence and an HMI which was programmed in QT-Creator.

Company	:	**Hegenscheidt-MFD**
Activities	:	Coordination and supervision of the electrical part of a synchronous
	:	of the spindle of a turn broach machine.
Market/customer	:	Engineering for the automotive industry.
Project name	:	WCC&M20110501 Ford Valencia DP45/OP30A.
Time and duration	:	Mid 2012 – 2 month.
Assignment	:	Develop, coordinate and commission on site of the hardware and
	:	software for a synchronous control.
	:	These machines had a rod connection between the chucks. While these
	:	machines were 17 year old, wear made it more and more difficult to
	:	adjust the machines for different crank shafts.
	:	By removing the rod connection and replace the old analog controlled
	:	motors and controllers by digital ones, it should be possible to keep the
	:	chucks in sync and make it more easy and quick to adjust.
Way of working	:	Replacing the old spindle controller by a digital controller and remove the
	:	rod connection.
	:	Programming and commissioning of the new system and the communica-
	:	to the available PLC. Programming HMI screens for the functionality.
	:	Preparing order lists for the German customer. Preparing the hardware
	:	drawings. Software was prepared at home and simulated in a model.
	:	During commissioning in Spain, all hardware was replaced in two weeks.
	:	After that commissioning of the software began.
	:	When commissioning was ready, it was proven that theory was right.
	:	Adjustment of the machine was much more easy. Also the capability
	:	of the machine almost raised to that of a new machine.
Value WCC&M	:	Adding recourses and knowledge on engineering, servo controllers and
	:	supervision.
	:	The customer is an former employer and had the difficulty that no one of
	:	the actual employee’s was known with the process and the working of
	:	the turn broach machines. That is why Hegenscheidt went to WCC&M!
	:	The end customer (Ford Valencia) was very pleased, having the original
	:	designer and engineer of the machines on site.
	:	Ford was worried about the project in an early state, but was very
	:	with the way of working.
Recourses used	:	Allen Bradley, Bosch Rexroth IndraWorks and IndraLogic MLC40.
Extra info	:	This machine was retooled as a prototype. Further three machines
	:	have to be done in the future.
	:	Necessity is not actual, because of the changed way of production.

Company	:	**Hegenscheidt-MFD**
Activities	:	Retooling a crank shaft straightening machine from Siemens S5 with
	:	DIMOS and old computer to Siemens S7 and new computer.
Market/customer	:	Engineering for the automotive industry.
Project name	:	WCC&M20121015 PSA Trémery.
Time and duration	:	End 2012 – 2 month.
Assignment	:	Supervision of the electrical retooling and also the commissioning
	:	in France.
Way of working	:	This way of retooling was already performed several times.
	:	This time Sinamics was chosen as drive system.
	:	Software was prepared in the office.
	:	On site at PSA, all hardware was replaced and software was
	:	commissioned within one month.
Value WCC&M	:	Adding resources and knowledge of Siemens S7.
Recourses used	:	Step7, ProTool, Starter.

Company	:	**MA-IT**
Note	:	End customer is VDL (through VHE)
Activities	:	Writing modules in SA88/SA95 standard for a machine for printing of
	:	solar cells and foil screens.
Market/customer	:	Solar/screen industry.
Project name	:	WCC&M20130423 VHE Eindhoven.
Time and duration	:	Beginning 2013 – 3 month.
Assignment	:	Writing re-usable and standard modules for servo systems.
Way of working	:	On site and with a strong feedback to the end customer.
	:	A working situation as a simultaneous engineering process.
	:	Modules were tested in a complete test and simulation system on site.
Value WCC&M	:	Adding recourses and knowledge of Bosch Rexroth servo systems.
Recourses used	:	Indraworks.

Company	:	**Hegenscheidt-MFD**
Activities	:	Retooling a universal crankshaft roll machine from 810T (with old
	:	rolling computer) to a system completely legalized in Siemens-S7.
Market/customer	:	Engineering for the automotive industry.
Project name	:	WCC&M20130221 Itochu Japan.
Time and duration	:	Mid 2013 – 1 month.
Assignment	:	Supervision of the electrical changes (panel) and also perform the new
	:	commissioning of the machine.
Way of working	:	Started to replace the old controller by a new one with its components.
	:	Starting the commissioning after that with an IO test.
	:	After one month, the complet machine was ready for production.
Value WCC&M	:	Adding recourses and knowledge of Siemens S7.
Recourses used	:	Step7, ProTool, SimoDrive.
Extra info	:	also see WCC&M20110119, it is the same machine

Company	:	**Hegenscheidt-MFD**
Activities	:	Adding a 3rd crank shaft type on 9 turn boach machines and two
	:	rolling machines.
Market/customer	:	Engineering for the automotive industry.
Project name	:	WCC&M20130220 Ford Bridgend.
Time and duration	:	Mid 2013 – 1 month.
Assignment	:	Adding a 3rd type selection on the existing machine with communication
	:	to the loader system.
Way of working	:	On site with end customer in Bridgend-UK, during "summer shutdown".
Value WCC&M	:	Adding resources and knowledge of Allen Bradley and Indramat.
Recourses used	:	RSLogix5. RSLogix500, Panelview1400, RSView Studio, VisualMotion.

Company	:	**Larditron**
Note	:	The end customer is Volvo Torslanda (through Valiant B.V. - Belgium)
Activities	:	Preparing software for several PLC's, which communicate with ABB
	:	weld- and manipulation robots and many ProfiNet accessories on fixtures
	:	and turn tables (in total > 100 PN Devices per PLC)
Market/customer	:	Volvo Sweden – Automotive bodywork
Project name	:	WCC&M20130916 Larditron Maastricht Airport
Time and duration	:	End 2013 – 7 month
Assignment	:	Adapting the standard software to an active live system
Way of working	:	Preparation on site and in a later stadium the commissioning at Volvo
	:	in Torslanda, Sweden
Value WCC&M	:	Adding resources and knowledge of Siemens systems
Recourses used	:	TIAPortal V11, V12 en V13 met Advanced Safety, Starter and WinCC Flex
Extra info	:	It is the body work production for the new Volvo XC90

Company	:	**Hegenscheidt-MFD**
Activities	:	Changing a universal crank shaft roll and straightening machine from
	:	Fanuc controller to Siemens-S7-319DP/PN and straightening computer
	:	version EWS6.2 to version EWS8.63-v7
Market/customer	:	Engineering for the automotive industry.
Project name	:	WCC&M20140415 General Motors Yantai - China
Time and duration	:	May 2014 – 1 month.
Assignment	:	Supervision of the electrical changes (panel) and also the commissioning
	:	of the new installation.
Way of working	:	Never performed before. First time all over the world.
	:	During commissioning in China, all of the machine was changed and
	:	brought into production again within one month time.
	:	This was done in cooperation with an German colleague, also a Chinese
	:	colleague was trained to do the hardware part.
Value WCC&M	:	Adding resources and knowledge of Siemens S7, and Indramat DIAX4
Recourses used	:	Step7, ProTool

Company	:	**MA-IT**
Note	:	End customer is VDL (through VHE)
Activities	:	Writing modules in SA88/SA95 standard for a machine for printing of
	:	solar cells and foil screens.
Market/customer	:	Solar/screen industry.
Project name	:	WCC&M20140528 VHE Eindhoven.
Time and duration	:	July 2014 – 6 weeks.
Assignment	:	Writing re-usable and standard modules for servo systems.
Way of working	:	On site and with a strong feedback to the end customer.
	:	A working situation as a simultaneous engineering process.
	:	Modules were tested in a complete test and simulation system on site.
Value WCC&M	:	Adding recourses and knowledge of Bosch Rexroth servo systems.
Recourses used	:	Indraworks.
Extra info	:	Follow up of WCC&M20130423

Company	:	**Hegenscheidt-MFD**
Activities	:	Changing a universal crank shaft roll and straightening machine from
	:	Fanuc controller to Siemens-S7-319DP/PN and straightening computer
	:	version EWS6.2 to version EWS8.63-v7
Market/customer	:	Engineering for the automotive industry.
Project name	:	WCC&M20140526 Dongan Harbin - China
Time and duration	:	Aug 2014 – 3 weeks
Assignment	:	Supervision of the electrical changes (panel) and also the commissioning
	:	of the new installation.
Way of working	:	During commissioning in China, all of the machine was changed and
	:	brought into production again within three weeks time.
Value WCC&M	:	Adding resources and knowledge of Siemens S7, and Indramat DIAX4
Recourses used	:	Step7, ProTool

Company	:	**Hegenscheidt-MFD**
Activities	:	Searching a failure in a machine type 7893 crank shaft rolling.
Market/customer	:	Engineering for the automotive industry.
Project name	:	WCC&M20140820 Feuer Powertrain, Nordhausen
Time and duration	:	Aug 2014 – 2 weeks
Assignment	:	This machine as delivered in the year 2000 to Weber in Markdorff and
	:	was bought by Feuer at the beginning of this year. Feuer maintenance
	:	people couldn’t get this machine to work. It was my task to help them.
Way of working	:	During preview, we saw the the machine had more than one problem.
	:	There were problems on mechanical and on electrical side of the machine.
	:	A list off all problems was made and handed over to Feuer. With this list
	:	Feuer ordered spare parts and was able to commission the machine
	:	themselves with the delivered parts an information.
Value WCC&M	:	Addind resources and knowledge of Siemens S7, and Indramat DIAX4
Recourses used	:	Step7, ProTool

Company	:	**Hegenscheidt-MFD**
Activities	:	Faultfinding in a machine type 7892 crank shaft rolling.
Market/customer	:	Engineering for the automotive industry.
Project name	:	WCC&M20140901 Audi - Györ.
Time and duration	:	Sept 2014 – 2 weeks.
Assignment	:	This machine had recently been maintained and had problems while
	:	being in production. Make the machine OK for production again.
Way of working	:	Firstly composed a list of problems together with the customer. Then
	:	prioritized this list. Then solved all problems according to the priority
	:	list.
	:	It proved necessary to order some extra parts that have not been part of
	:	the major mainainance.
Value WCC&M	:	Adding resources and knowledge of Siemens S7, and Indramat DIAX4
Recourses used	:	Step7, ProTool

Company	:	**Hegenscheidt-MFD**
Activities	:	Adding a new method for data matrix check
Market/customer	:	Engineering for the automotive industry.
Project name	:	WCC&M20140822 Deutz - Köln.
Time and duration	:	Oct 2014 – 2 weeks.
Assignment	:	Deutz is changing it's way of DMC to an new DMC code.
	:	The new code is considerable longer than the old code and both codes
	:	shall be used in parallel during a certain time to prove the new code.
Way of working	:	Translated both specifications of the to a software model and integrated
	:	this model in the software. Tests were successful.
Value WCC&M	:	Adding resources and knowledge of Siemens S7.
Recourses used	:	Step7, ProTool

Company	:	**Hegenscheidt-MFD**
Activities	:	Changing a universal crank shaft rolling machine from Siemens S7-
	:	316 to Siemens-S7-319DP/PN and from straightening computer EWS6.2
	:	to an in the PLC integrated solution.
Market/customer	:	Engineering for the automotive industry.
Project name	:	WCC&M20141002 Francaise de Mechanique, Douvrin
Time and duration	:	Nov 2014 – 1 month.
Assignment	:	Supervision of the electrical changes (panel) and also the changes in the
	:	hardware and the commissioning of the software.
Way of working	:	Never performed in this way. First time ever.
	:	During commissioning in France, all hardware was changed and the
	:	software was commissioned within one month.
	:	Work was done with a team of three people who were active in different
	:	parts of the machine. Every two days these parts were integrated to one
	:	program.
Value WCC&M	:	Adding resources and knowledge of Siemens S7, and Sinamics
Recourses used	:	Step7, ProTool, Starter.

Company	:	**Hegenscheidt-MFD**
Activities	:	Changing a universal crank shaft rolling machine from Siemens S7-316 to Siemens-S7-319DP/PN and from straightening computer EWS6.2 to an in the PLC integrated solution.
Market/customer	:	Engineering for the automotive industry.
Project name	:	WCC&M20141210 Mercedes Benz, Stuttgart
Time and duration	:	Dec 2014 – 1 month.
Assignment	:	Supervision of the electrical changes (panel) and also the changes in the hardware and the commissioning of the software.
Way of working	:	Second time performed in this way. During commissioning in Germany, all hardware was changed and the software was commissioned within one month. Work was done with a team of three people who were active in different parts of the machine. Every two days these parts were integrated to one program. Whilst this retooling was done during Christmas/New Year holidays, this is a profit in time with respect to the previous retoolings.
Value WCC&M	:	Adding resources and knowledge of Siemens S7, and Sinamics
Recourses used	:	Step7, ProTool, Starter, Indraworks-Ds.