

Case Study | VMI Group

A secure grip on the road to enhanced password protection and security

The Challenge

With field engineers servicing sophisticated tire production machines around the globe, tire machine specialist VMI felt the need to secure access to the Programmed Logic Controllers on installations. This leading Dutch tire machine manufacturer realized that a centrally administered password key protection scheme would safeguard intellectual capital and machine investments for the future.

The Solution

World's largest industrial automation specialist Rockwell Automation and Wibu-Systems worked together to produce the ideal solution. Deploying the advanced coding technology of Wibu-Systems' CodeMeter, passwords are no longer saved unencrypted on a local machine, but encrypted in a CmContainer. Wibu-Systems License Central allocates software and hardware keys to secure access for local engineers at remote sites.

The Success

VMI's key administration control now assures that engineers have the correct, centrally allocated code for entry to sensitive system source code. VMI can fully capitalize their own intellectual property development efforts by minimizing the risk of fraud. Password storage and management is now supported by a robust storage technology, a strong authentication capability and remote password handling.



Jan Grashuis, Vice President R&D, VMI Group

"Our latest award winning tire manufacturing products integrate leading-edge technology with VMI's fifty years of expertise in building machines for tire producers. They are robust state-of-the-art solutions, aimed at meeting the sophisticated requirements of today's automotive marketplace. Our products are fully automated, driven by sensors and visions cameras. With this level of investment, it's essential that we take the necessary steps to protect essential assets wherever they are across our global installed base."



The customer



The VMI Group, a division of the TKH Group, is a proven market leader in the professional supply and service of machineries for the tire, rubber, can washing and product handling businesses. The company, now a global organization with over 1000 employees throughout Europe, Asia, North and South America, began its work helping to rebuild the Dutch industry after WWII. Manufacturing expanded as the company entered the rubber and tire industries in the early 1960s. Can machinery soon followed. VMI Care is the last business unit added to the corporation, and, just like all others, it has become the market leader in high capacity cotton pad machinery.

Wibu-Systems and VMI Group

Every year 1.2 billion tires roll off production lines worldwide. Of these, 20 percent are manufactured by machines from the Dutch VMI Group. Almost all of the world's major tire brands rely on VMI Tire machines and services.

Today VMI machines can deliver 2000 tires a day. Control of the process is fully automated. These advanced machines meet current and future tire industry requirements for a higher level of automation, flexibility, output and operator safety. Developed in VMI's research facility in the Netherlands, they deploy the latest generation of Programmable Logic Controllers (PLCs) and drives with "safe torque" and "safe speed" features.

With VMI tire machines, safety zones are segmented, so when an operator enters the machine only his working area is affected and the rest of the machine continues to function. This increases manufacturing output considerably and represents a significant step forward from traditional safety systems. The intelligence that gives the superior level of performance comes from the PLC's, the majority of which are provided by American specialist and VMI technology partner Rockwell Automation.

Jan Grashuis, Vice President of R&D at VMI states: "There's a high degree of knowledge and programming work required for the control requirements of tire production. At VMI we deliver exceptional quality, which is why we maintain our technical leadership in our industry sector."

"In the past the major tire brands developed and built their own machines, but now they increasingly focus on their core business and trust the manufacturing excellence of VMI. Through cameras, coupled with a vision system, we monitor the tire manufacturing process steps and make corrections whenever necessary, without the manual intervention of an operator."

Remote service, whether in China, India or in other faraway areas always presents security issues. With ongoing maintenance and upgrades required by field engineers at customer sites globally, VMI decided to upgrade the security platform of its PLC software.



"Our software contains essential algorithms that control the operation of our machines; a reason why we need protection," explains Jan Grashuis. "Precautionary measures to manage access to the code, especially for remote locations, are essential. This is why Rockwell and Wibu-Systems came up with the CodeMeter solution."



Rockwell controllers are programmed through source files visible from its Studio 5000 software suite. With the new CodeMeter technology implemented by Wibu-Systems, passwords are no longer saved unencrypted on a local machine, but are now encrypted in a separate CmContainer. The CmContainer can either be a CmDongle (a tamperproof hardware device embedding a smart card controller), or a CmActLicense (a software license file).

Wibu-Systems CSPP (CodeMeter Source Protection Provider) complements this solution. CSPP remotely manages passwords. A librarian in VMI's Dutch office can grant user rights from his CSPP Manager; passwords are transferred through the CodeMeter License Central installed on the corporate server to the field engineer who has the CSPP Client running and interfacing with Studio 5000. He can then maintain only the assigned machines, for the set of functionalities and time range that has been set by the librarian.

Furthermore, a CmDongle with local storage is backward compatible to all Rockwell source protection keys already in the field, providing a secure, smart card based storage mechanism for the traditional password file. The productivity optimization rendered by the software architecture delivers world-class capabilities, from process to safety to motion, and is now fully safeguarded from any involuntary or fraudulent modifications.

For VMI, secure password management has become a powerful solution, combining the most robust storage technology with strong authentication capability and remote password handling, including email updating of the complete dongle contents. Today, the valuable source code of their tire machine control software enjoys comprehensive protection, wherever tire production takes place around the world.

About Wibu-Systems:

WIBU-SYSTEMS AG (WIBU®), a privately held company founded by Oliver Winzenried and Marcellus Buchheit in 1989, is an innovative security technology leader in the global software licensing market. Wibu-Systems' comprehensive and award winning solutions offer

unique and internationally patented processes for protection, licensing and security of digital assets and know-how to software publishers and industrial manufacturers who distribute their applications through PC-, embedded-, mobile- and cloud-based models.



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