

Better control with TDM software

Velan realizes big savings with Tool Data Management software

This leader in valve production employs a tooling stock of 9.000 components and over 10,000 different programs per year. TDM software helped them get a handle on this amazing diversity.

Velan, Inc. is a world leader in the design and production of cast and forged severe service valves and steam traps across all major industries. This entails considerable diversity, not only in the products but in the machines and tooling required to make them.

„We use nearly 100 CNC machines and a tooling stock of over 9,000 components, and we employ over 10,000 different programs per year with, as you can imagine multiple program users, in order to manufacture a broad range of types and sizes of steel valves at our two plants in Montreal and our plant in Vermont,“ says Daniel Pagé, Supervisor of CNC Programming for Velan.

Numbers like that proved difficult to manage, and opportunities for greater efficiency emerged. Pagé gives some examples. „All of our plants were doing their own tooling purchasing,“ he says. “The loss of efficiencies in the ordering process and the increasing loss of visibility into our tool stock was forcing us to do something.”

Visibility was limited in-house as well. „Tooling data was kept on paper ‚register cards‘. Though common in the industry, this is a cumbersome and time-consuming way to handle things. And for a company like ours with such a huge volume of individual jobs each year this was also a major time-waste for programming as well.“

Velan, and Pagé looked to TDM Systems Inc. (Schaumburg, IL) for solutions. This was back in 2003 and marked the beginning of a long and fruitful partnership. That relationship continues today.

TDM-Tool Data Management is a software for managing tools and their data company wide. With its centralized database TDM supports tool data like geometry, feeds and speeds and supplier data for all company divisions. The TDM software modules also support the user with specialized functions in the crib, the presetting, on the machine and in the NC programming.



- Leader in the design and production of cast and forged severe service valves and steam traps across all major industries



- 3 Plants in North America, 4 Plants in Europe, 5 Plants in Asia



- 1950 by the entrepreneur A.K. Velan



- 1.800 employees





Why TDM?

TDM ensures that tool data is available where it is needed, when it is needed. It links CAM systems, presetting and crib systems, as well as CNC machine controls, and it can also extend upstream to the planning and execution level, such as PPS, ERP and MES systems. To extend so widely, a tool data management system must be open and able to supply numerous import and export interfaces, and to integrate data from various sources, such as manufacturer catalogs or 3D models created in-house, into a centralized database. The TDM system supports the capture of tool data and makes this data available to other systems. Impacting the entire process from the selection of tools, to their use in production planning, to seamless transfer and use on the shop floor. Information from the individual process steps can be saved in the centralized database creating a growing mass of data that's accessible throughout the system. The result: time and cost savings.

Once the NC program was defined, one would walk the program to the shop at Velan and look for the tooling for the job. In a typical company the tooling data resides in many different places: in Excel spreadsheets, WORD tool lists, tool crib index cards, on Note Pad, on employees PCs, in shop travelers, in tooling books at the machines, or simply in people's head. The key point is that there is no central tooling system and this information isn't digitally traceable or searchable. Plus, often the machine operator does not really follow the tool specifications from the NC programmer, but uses his own style of tooling instead, info lost to the CAM and ERP systems. Velan was looking to avoid these pitfalls, but first came installation, and installation of a major software system is typically fraught with difficulties and delays. Not so at Velan. „The installation went very well,“ says Pagé. „TDM started us on the right foot, then helped us with tool crib and ordering modules and our last migration.“

Worker buy-in is a factor in the success of a software system. With TDM Solution, Velan has been able to improve that

part as well. TDM has abolished the old “register card” game. TDM manages all tool crib data now digitally. These things reduce labor and hassles for the workers involved; thus, work has become more efficient, quicker, and more „comfortable,“ as Pagé puts it.

More efficiency

Velan's initial priority was getting more efficiency in the tool cribs. Before TDM, all tool cribs were without any connection. Now, they have the possibility to share tools if an emergency comes up, for example. “And more important is the gain of synergistic potential in the ordering process,” says Pagé. Now they can put orders together, which puts them into a better position with their tool suppliers, which in turn brings better discounts. In addition, it's estimated that TDM has saved Velan more than 34 hours per year strictly in the ordering process and reduced the possibility for error during ordering. A possibility that has been further reduced by TDM ability to generate a picture of the desired item. Plus, Velan has now been able to standardize its suppliers list, reducing the number by over 15%. They have also been able to reduce the number of company buyers from three to one, another cost savings. Velan uses TDM ordering process to buy a host of smaller things as well, such as gloves and security glasses, racking up a host of smaller, yet significant savings. The greater visibility in the tool crib has led to additional time savings. Thanks to the TDM Gauge and Calibration Module, with its ability to quickly share accurate gauging data with all plants and to print accurate and up to date labels for each gauge and tooling component, TDM has saved Velan a whopping 100 hours a year and -- importantly -- drastically reduced the possibilities for errors with these components, errors that can cause damaged parts and lost production. „The hard savings are enormous and TDM has paid for itself many times over,“ concludes Pagé. Increased efficiency has made itself felt in other areas as well.

„We had five different databases, none of them supported by Windows 10. Now thanks to TDM we have a central database for all, even different plants. So tooling, gauges, tool assemblies can all be shared. This has also enabled the clean-up or purging of ‚dead‘ or underutilized tools. This purging has resulted in inventory cost savings of 600 000 USD.

„As users of TDM we have evolved over time, adding new modules. We are currently working with the CATIA interface,“ he notes. The TDM CATIA Interface will allow geometry data, feeds & speeds, cutting conditions and collision data to be loaded into CATIA and accessible to everyone. and

would deliver therefore more efficiencies in the programming. He anticipates this will speed CNC programming, which is already faster than it had been, thanks to the TDM modules already installed.

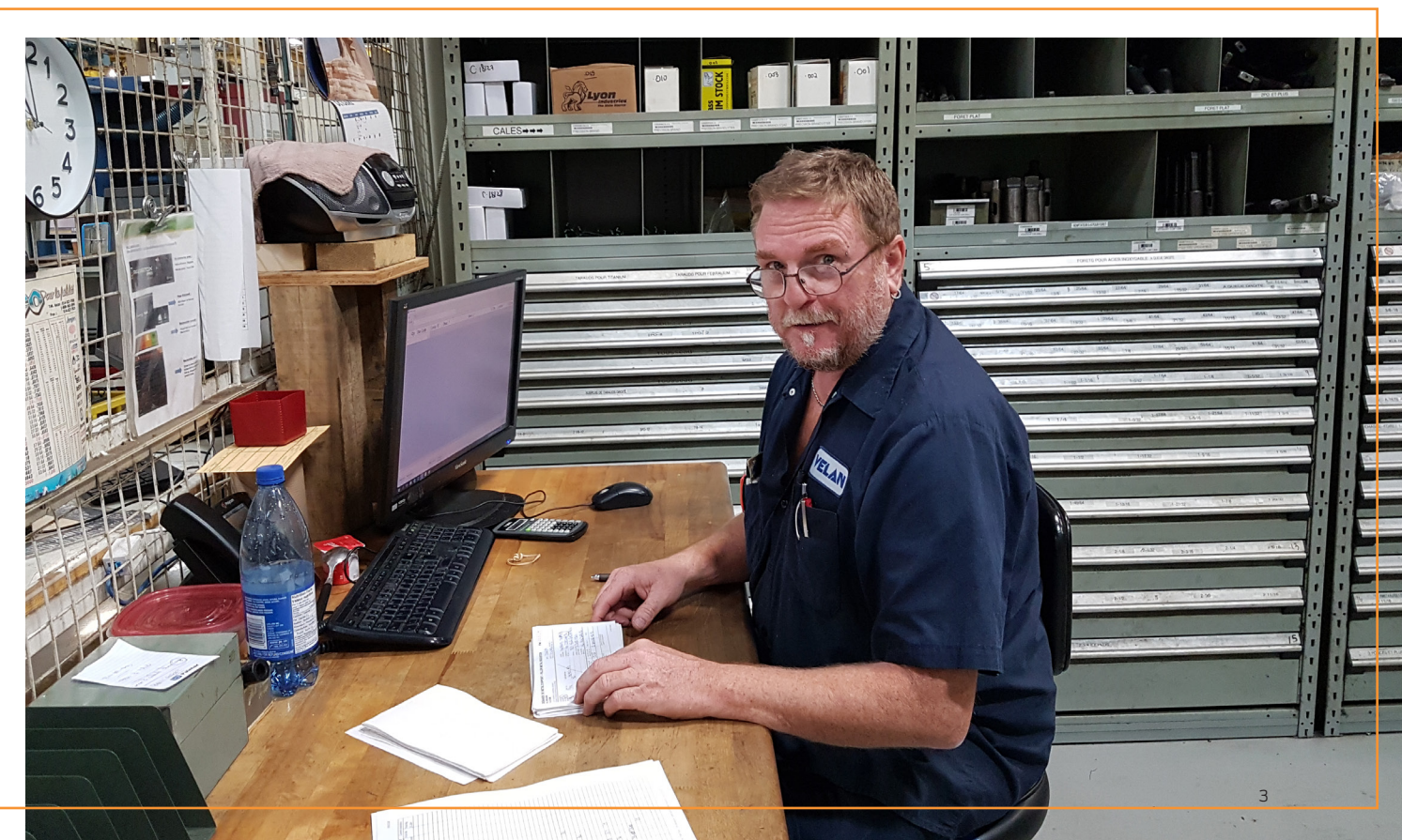
And since TDM also integrates with upstream systems, Velan has linked TDM with its ERP system. The result? Increased speed, plus less data entry into ERP leading to time savings and fewer chances

for error. So overall, how would Pagé and Velan characterize their experience with TDM? „Very satisfied.“ So satisfied that Velan plans to implement TDM Software at the plant it is opening in India.

“The hard savings are enormous and TDM has paid for itself many times over.”

Daniel Pagé,

Supervisor of CNC Programming for Velan



ALL AT A GLANCE

Better visibility, great time savings and highest quality assurance!

TDM in use at Velan, Inc.



Valve production
Use of almost
100 CNC machines
Tool inventory of over
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1.800 employees



1950 by the entrepreneur
A.K. Velan



3 Plants in North America
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5 Plants in Asia

BENEFITS

Situation befor introduction of TDM

- Lack of transparency & efficiency in tool inventory
- Tool Crib were not connected and no efficient ordering process
- No central tool management
- Lack of digitization (tabs) caused large amount of time and high error rate

Process Innovation

- One central data base visualizes the complete tool inventories
- Standardization of all tools between all Velan plants
- Transparent tool crib management of the tool inventories and the respective storage locations
- High quality assurance due to available and reliable gauges
- High efficiency in NC programming through access to tool data, cutting conditions and collision data



Reduction and standardization of suppliers by 15% as well as reducing the company buyers from 3 to 1



34 hours saved per year in a better ordering process



100 hours time savings in managing gauges



Inventory cost savings of 600 000 USD due to

- cleanup crib
- sharing tools and gauges among the factories