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Nadcap COLUMN:
Organization Responsible
for Nadcap Audits Gets
New Training Program from
Goodrich Employees

page 46



**9th MFN Asian
Shot Peening Workshop &
Trade Show in Singapore
9th-12th of Nov. 2009
(see page 23)**

FEMS

FEMS COLUMN:
The FEMS Materials
Innovation Prize

page 42

**Wheelabrator and DISA
Complete Merger**

page 11

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**Separate Print: Vol. 10, July Issue, 2009
Next Generation Supplier...**

Next Generation Supplier...

Aerosphere, located in Pointe-Claire, Montreal, Canada is a shot peening process facility that provides state of the art peening services and has developed customer services standards that are impressive.

The company was founded in 2004 by Guy Levasseur & Georges Hebert with the financial support of local entrepreneurs in processing. The initial goal of Aerosphere was to develop the automation of peen forming for aircraft wing skins application.

Though peen forming is regularly used for aircraft wing skin manufacturing, it has yet to be robotized on a large scale for complex shape. Less complex shapes can be peen formed in an automated manner, but it is limited to large radius and certainly is not to the standards necessary for complex surgical peen forming required for dihedral shape & integral stringer skins. Only Aerosphere and their German partner KSA possess such technology to develop & implement APF (Automated Peen Forming). After a few years of offering consultation services, Aerosphere's management decided to get involved in manufacturing, but as Guy Levasseur, President of Aerosphere, said: "Only if we can make a difference!"

This opportunity came up in support of a well established company located in Pointe-Claire that was already a process facility provider in FPI, Anodizing & Painting called TNM Anodizing and Paint. They were looking to expand

their customer satisfaction experience by adding complementary process to their already vast array of available processes. Shot peening appeared as the premium process to add, but it required a very unique expertise. The plan was to shot peen small and medium parts, and later on, to add components with a working envelop of up to 29 x 6 x 2 ft. (8.8 x 1.82 x 0.6 m.)

It is no secret that aluminum and titanium components obtains some stress relief from shot peening, inherent from either the machining processes, the residual stresses left over from the mill when the raw material is produced, thermal or other processes, etc... For high tolerance components on flatness / contour, shape correction after shot peening is very often required. It was no use to provide such a shot peening size capability to customers without the ability to straighten components after shot peening. Therefore, peen forming and straightening became a necessity. This is where Aerosphere came in as a prime partner for this process. The Canadian company was already well recognized in the industry for its ability to peen form very complex components.

In 2006 Aerosphere started operations in an adjacent building from TNM and got fully certified in 2007 with accreditation to AS9100-ISO 9001, Nadcap Surface Enhancement, Bombardier, Boeing, Airbus, etc... all this in only 6 months! "This was an incredible accomplishment by everybody but mostly by our President and Delegated QA Manager,

Guy Levasseur, that not only built the whole QA Management system, but helped by his twin brother Gilles Levasseur, a very talented programmer, they re-invented the way to manage and build systems for a small to medium enterprise" says Georges Hebert, Vice-president of Operations at Aerosphere. "In many ways, we broke new grounds, and this is just a start", he claimed.

"Of course, success does not come alone nor effortlessly, all our employees went out of their normal operating zone to help start Aerosphere. To name a few: Georges Hebert has been a tremendous force in our day to day operations, managing employees, performing daily miracles to services our customers need, and Isabelle Lévesque, our controller, has built our accounting and financial structure from nothing", says Guy Levasseur. "When you start a new operations from scratch, customers are very demanding, before they show you trust, you have to prove your valor, not one or twice, but over and over and this is what Aerosphere has been accomplishing on a regular basis for the last 2 ½ years", says Guy.

But above this, the job shop had to be different from the others to make its mark. Outstanding customer service and competitive pricing would only bring them so far; something else had to complement this service. This is where the programming genius of Gilles Levasseur came into action. "I had many ideas on how I wanted the documentation and information to be treated and managed, but did not have the know-how on how to implement it", says Guy, "This is where Gilles's programming skills came into play", he added.

Not only because of cost constrain, but also for lack available suitable software, did they decide to build their own manufacturing control software. Aerosphere was a small company and could not afford expensive licensed software, by making their own, not only could they make it for an affordable price, but they could have it exactly as they thought an Aerospace job shop process facility should be operated.

The company came up with a simple approach, to consult its customer into what they saw as an asset for them to



AeroSphere inc., Canada

Peening



Large component shot peening and peen forming capability

do business with them! The question was: What would you like to know from your processing supplier, how and when? The answer came to them as a surprise, as none of the customer they questioned had positive feedback from their processing supplier on the planning of the production and when they could expect their components to be ready for pickup. "Before Aerosphere, other than calling every morning or twice a day to request an updated status, there were very limited ways to have some sort of status", said one of Aerospheres' customer when questioned. "Basically, the squeaking wheel got the oil! So, unless you complained, your parts did not get processed, or only when convenient for the supplier.

You felt like you basically had to beg to get your parts" he added.

Hearing this, they decided that it would be one of the areas they would focus on to start improving their customer's satisfaction experience. After 2 years in the making, the software developed by Aerosphere and Gilles Levasseur now manages the following:

- All time control assets: Calibration, training, customer satisfaction surveys, internal audits, etc...
- Database Documentation Control: Engineering drawing, controlled specifications, internal documents, PVA (Production Visual Aid) including automated documentation update for



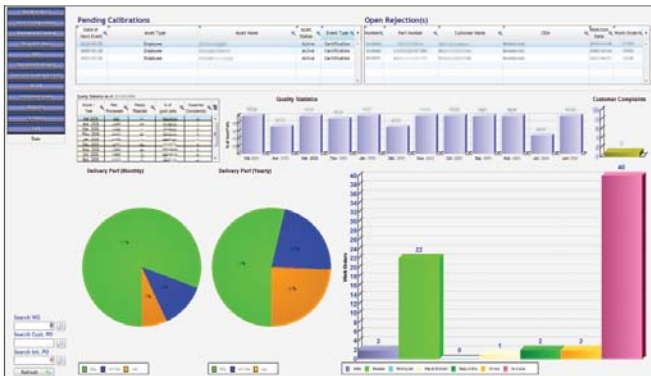
Smaller components have dedicated equipments and care

customer and supplier alike.

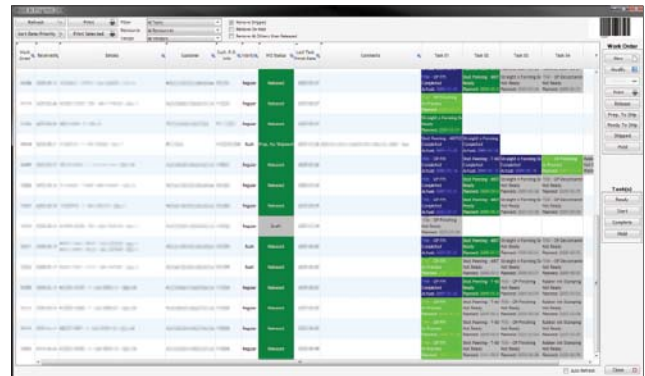
- Work orders managed by bar coding systems including sophisticated WIP (Work In Process) with variable sorting and filtering capabilities.
- Engineering parts configuration management with quotation & RFQ (Request for Quotation) modules to manage quotations based on unlimited part configurations and manage quotations from suppliers to handle such work transfer.
- Document viewer based on PDF technologies that ensure document integrity, and also enables to view converted solid model directly in the viewer so employees can look and analyze a solid model, read annotations, etc... directly from the available shop floor viewer.
- Also included is a reporting module to obtain most of the types of report you would require: AVL (Approved Vendor List), calibration, department performance, supplier performance, etc...

Recently, two major modules were added to complete this impressive list of capability for manufacturing control software: A purchase order module and an information dashboard.

The purchase order module became necessary as customers demand for increased scope on components produced by Aerosphere became more and more stringent. "We had to manage different suppliers at different locations performing different tasks, often on the same part. This became an issue where scopes were not clearly defined for each supplier" said Guy. They then decided that the best way to go at it would be to include a purchasing order module into their operational work order system and tie them together to have an integrated system and manage the internal workflow as well as the different suppliers required to intervene on the components in one interface. This gave them an enormous advantage to be able to manage their suppliers and evaluate their delivery performance. "Not only are we able to evaluate our own manufacturing work performance and work load, but we are able to have indicators as to how our suppliers are performing. Basically, are they delivering early, on-time, or late?" said Guy. Now, that's the internal mechanic. What



The ADC software information dashboard provides critical live data information at a glance



The work in process module (WIP) provides comprehensive information for active work order and their status

the customers see is the unification of these databases and live data. If you are a customer from Aerosphere and you have an active purchase order, every morning you will receive a report in PDF by e-mail on the status of each purchase order, not just where they are, but also when they are expected to move including an advancement status. "We are not waiting at the end of the process to start pushing; we pull production at every step to maintain production on time", said Guy. The WIP (Work in Process) module is quite user friendly, if something is wrong, and a work order misses a milestone, the delinquent task (process) turns red and makes it easy to see which area needs attention so you can focus on the areas that may be a little more challenging.

"That way, when the customer calls, other than wanting to know how I did at golf during the week-end, it is to discuss components that need special attention (Rush parts, etc...) It leaves us managing only the exceptions", claimed Guy. As one of Aerosphere's customers

representative performing a routine stop at the facility during our shop visit mentioned: "Aerosphere has become a key supplier for us, their ability to manage their customer and their supplier, makes them a premiere choice to delegate components for a «Turn-Key» Service", he claimed. "With Aerosphere we were able to manage more with the same amount of staff, not to mention that they reduced tremendously our lead-time for regular processing. We also appreciate their ability to expedite parts when we are in need, making them our little jewel" he noted. As other companies start doing business with Aerosphere and start getting the benefits their customers enjoy, they will certainly become a major process sub-contractor in the forthcoming years.

"The response we have been getting from our customer has been more than positive. We have made long term agreements with our key customers that give them premium services and ensure they get world class response, from a world class supplier", says Guy.

It seems Aerosphere is only starting to surprise the Aerospace community, and from what we see, it will only get better, thus making Aerosphere truly the NEXT GENERATION AEROSPACE SUPPLIER for world class processing services.



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