MISTEQUAY INTERNATIONAL newsletter

An ISO 9001:2015 certified company

September 2017

Growth Trends in 2016-2017

Mistequay International succeeded in comfortably surpassing its yearly growth target of 20% in 2016 owing to the following key factors.

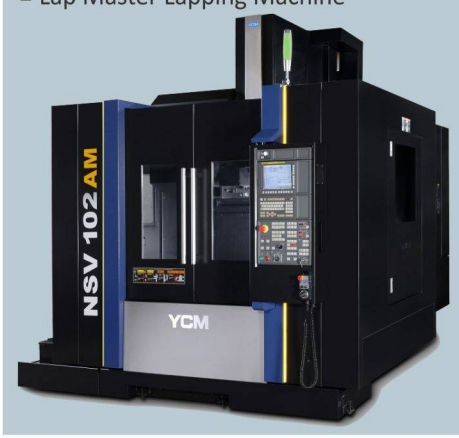
- Our ability to meet or exceed expectations in quality, delivery and prices to our existing customers.
- Low cost and aggressive timelines of development, have been the key factors enabling us to attract new projects.
- Our strategic move towards tighter tolerances and higher end aerospace type machining work has contributed towards improving our revenues and profitability over the past year.
- We continue our focus on upgrading our capability through training and focused learning, process refinement and capacity augmentations.

PERFORMANCE HIGHLIGHTS 2016-17

- Revenues up ~21%
- Quality Occurrences down by 11% to a merely 5 minor occurrences during the whole year. Most of these occurrences were cosmetics and deburring related.
- On time delivery performance up to 96+% - The average delay on the 4% late jobs was under 2 weeks of the original commitment date.
- Capacity Augmentation ~30%

CAPACITY AUGMENTATION IN 2016-17

- YCM NSV102AM CNC VMC
- Schaublin 42L TM-6 Turn Mill Center
- Kitamura Mycenter (2 machines)
- Heald Sizematic ID Grinder (3 machines)
- Myford Cylindrical Grinder
- Extrude Hone Abrasive Finishing Machine
- Lap Master Lapping Machine



TRADE FAIR PARTICIPATION IN 2016-2017:

Mistequay again showcased its capabilities at Hannover Messe 2016 and attracted new customers from various industries. We met reps from CERN at Hannover and after a rigorous evaluation process, we are an approved CERN supplier. We have already executed a number of projects for CERN during last year.

We exhibited at AIRTEC 2016 in Munich and due to a great response, we are exhibiting again at AIRTEC 2017.

PAKISTAN AEROSPACE
At
AIRTEC
12th INTERNATIONAL AEROSPACE SUPPLY FAIR
Stand: D-124, C-133
October 24 - 26 2017
AeroExpoPark
Next to Munich Airport, Germany

ERP SYSTEM-SHOPTECH E2

We have a fully integrated ERP system called E2 by an American company SHOPTECH. This system has a comprehensive production scheduling, shop floor control and monitoring module fully integrated with the inventory, accounting systems, order processing and quotations module etc.

BREAKING THE 5 MICRON BARRIER

With a climate controlled grinding area we are effectively grinding hardened cylindrical components within 5 microns. Mistequay International has a complete range of grinding and honing capability for small cylindrical components.

INSIDE GRINDING CAPABILITY: We have invested in 3 Heald and Sizematic Internal diameter grinders that can grind Internal diameter from 4mm to 150 mm diameter. We are holding tolerances in the 3-5 micron range on our ID grinders.

MICRO DIAMETER CYLINDRICAL GRINDING: We have invested in a Myford cylindrical grinder for grinding small part up to 2 mm in diameter to 3-5 micron accuracy.

LAP MASTER LAPPING MACHINE: We have invested in a production lapping machine that laps surfaces to 0.25 microns flatness and a super finish surface.

DEBURR & FINISHING TECHNOLOGY FOR AEROSPACE

The aerospace industry has extremely stringent requirements for deburring, surface finishes and general cosmetics. Complying with these requirements becomes extremely challenging in smaller holes and hard to reach contours. Most of our quality non compliances in 2016 have been around the deburring of smaller holes and contours etc.

EXTRUDE HONE ABRASIVE FINISHING MACHINE: Mistequay International has imported an abrasive finishing machine AFM made by EXTRUDE HONE. This process uses an abrasive polymer based medium to pass through holes and contours under pressure and the abrasive action works like a flexible hone. This is a proven technique to deburr and smoothen out sharp edges on intersecting holes of ciritical hydraulic components for the aerospace industry.

SPINNER DEBURRING MACHINE: This machine uses a magnetic field to drive micro media in a liquid based environment. This media is in the form of tiny pins made of special stainless steel. The abrasive action of this media against the parts held in the liquid media chamber does an excellent job at external deburring. We are actively deploying this deburring equipment for various applications.

50X MICROSCOPE STATIONS FOR DEBURRING INSPECTION: We have setup several inspection stations with 50x microscopes for the critical deburring and final inspection for the cosmetic compliance of aerospace components. All critical aerospace components are inspected a 100% under a microscope for compliance.

METROLOGY CAPABILITY UPGRADING

In-process inspection checks for critical features in components has been one of the biggest source of down time in production due to wait for validation of key features. We are in the process of creating a fully functional in-process measurement lab in the center of our production floor, accessible to all our production operators for autonomous quality validation. This will share the load of our main QA lab and will equip production operators with all the tools to be autonomous in all types of QA checks. This initiative will significantly improve the efficiency of our in-process QA.

PROCESS CONTROL, RELIABILITY AND QUALITY ASSURANCE:

The Mistequay International team firmly believes that a stable, reliable and repeatable process yields high end quality products. To ensure the reliability of our machine tools we have instituted the following regimented programs.

PREVENTIVE MAINTENANCE AND MACHINE TOOL CALIBRATION PROGRAM: We have instituted a well-functioning preventive maintenance program for our machine tools which is carried out by an autonomous maintenance team comprising of production operators and machine mechanics. The focus of the autonomous maintenance team is to ensure that the machines are operating under the desired, designed conditions. Any deviation from standard designed functioning is immediately detected and eradicated. After all the scheduled preventive maintenance activities are completed, the machines mechanical calibration is verified and fine-tuned wherever necessary. Our autonomous preventive maintenance team can solely be credited with ensuring the reliability and repeatability of our machine tools which in turn ensures predictability of product quality.

TOOLING R&D AND CUTTING PARAMETERS FINE TUNING: Our process engineering team spearheads a tooling R&D team comprising of two process engineers and four machinists. This team is always on the lookout for better tooling options for existing jobs and future projects. The team attends several tooling webinars per year and performs peer to peer training to educate machinists/programmers on tooling trends. The team also conducts feed/speeds and cutting parameter audits on selected jobs to identify potential for improvement in tool life and cycle times. This team is mandated with the responsibility of optimizing the tooling costs and improving machining efficiencies.

CONTROL CHARTS FOR IN-PROCESS MEASUREMENTS TO ESTABLISH PROCESS RELIABILITY : Control charts are drawn on selected critical dimensions during the production process. These control charts not only help monitor the production of critical machining features but also provides key feedback about the reliability of our machine tools. The autonomous preventive maintenance team and the tooling R&D team uses the control charts to proactively monitor the performance of the machine tools and the effectiveness of the deployed tooling on various applications. Control charts are a critical visual tool for us to assess the condition of our machine tools.