Project Identification Name: Sight Machine Analytics in CNC Machinery

Project Summary

This Project aims to integrate the manufacturing centric analytics system that Sight Machine offers, with 34 computer-based machines at Nolte, with the goal of gaining actionable insight into the manufacturing process.

Additionally, what is needed is a database extract from the Sight Machine analytics integrated system to link with the existing JobBoss system, with the ability to generate Product Cost Analysis, Employee Efficiency Analysis and Profit Analysis by product reports.

Business Case

The Production and Manufacturing Team had an idea of investing in the future of manufacturing systems, looking forward to becoming an eventual "smart factory". The initial concept of a first-phase trial of some smart-factory technology was hence started. The leader in the field for a company of Nolte's size is Sight Machine, and they have a Manufacturing Analytics system that is based on big data analytics that would provide a great entry-point into this technology.

Computer-based machining equipment, including the CNC Milling, Swiss Machining and CNC Lathe Turning equipment is aimed to be the first target for this change. These machines were decided to be the best to convert to IoT technologies needed for the Sight Machine analytics software. There are 34 machines in this manufacturing line that was decided to be a part of the first roll-out.

Deliverables

Process Deliverables

- Project Charter/Scope Document – This gives details about the responsibilities of all the stakeholders involved in the project, the project deliverables, process deliverables, milestones, risks, what's in scope and what isn't.
- Project Overview Presentation – Presentation that needs to be done in front of key stakeholders in order to gain approval for the project.
- Work Breakdown Structure – The WBS defines the work that is to be done during the project into functional areas.
- Project Cost Estimate – This helps break down the total estimated cost involved in the project, including the machinery and employee cost.
- Project Schedule Plan – This breaks down at what point in the project what is to be done, including when it is meant to be finished.
- Weekly Status Report – A status report, used to keep track of the way a project is progressing.

- Project Risk Management Worksheet – A sheet that documents the major risks that the project is facing, along with its probability, impact and potential management plan.
- Final Report and Retrospection Report – The final report with all entire final product backlog and retrospection on what went right and what went wrong in the project.

Product Deliverables

- Conversion of 34 computer-based machining equipment into IoT technologies needed for Sight Machine analytics.
- Integration of Sight Machine analytics with the CNC Milling Swiss Machining and CNC Lathe Tuning equipment.
- Database extract from the Sight Machine analytics integrated system to link with JobBoss ERP system, with the ability to generate Product Cost Analysis, Employee Efficiency Analysis and Profit Analysis by product reports.
- Training for shift supervisors and CNC machine operators to be able to properly use the system.

Constraints

Time Constraints

Project plan is to be readied by April 30th 2018, with approval and material expected to be readied by May 11th 2018. The project is expected to start by June 1st 2018.

Cost Constraints

The project is expected to have sufficient funding. Once estimation has been done, a more complete picture will be painted on the costs associated with this project. Some project adjustments may be done after the full cost is determined.

Out of Scope/Assumptions

- This project requires a level of data, for analytics, that Nolte's servers running JobBoss cannot handle. This will be shifted into the cloud domain with Sight Machine's expertise in the technology.
- Employees from cross-impacted areas will be in the loop for the project. From manufacturing or production perspective, any issues encountered will be rerouted via them.
- All the machinery is assumed to be working in order for the analysis implementation team to perform their tasks.
- Any rework and extra work that is agreed to be done in addition to the initially agreed scope items may only be integrated if they gain approval from the project owner.

Team and Organizational Structure

Project Team Members

Member	Role
Greg Harrison	VP of Finance
Rahul Jairaj	Project Manager
Krishnanand Naik	Reports Systems Programmer/Analyst
Mary Gibson	Manufacturing Systems Analyst
Lamont Wilson	Senior Programmer
Christina Kutty	Senior Testing Specialist
June Petersen	Database Administrator
Yi Wang	Programmer
Paul Johnson	Testing Specialist

Sight Machine Technology Team

Member	Role
Chris Dobbrow	SVP Sales
Kurt DeMaagd	VP Analytics
Ryan Smith	VP Engineering
Curtis Kellman	Client Implementation Technology Analyst

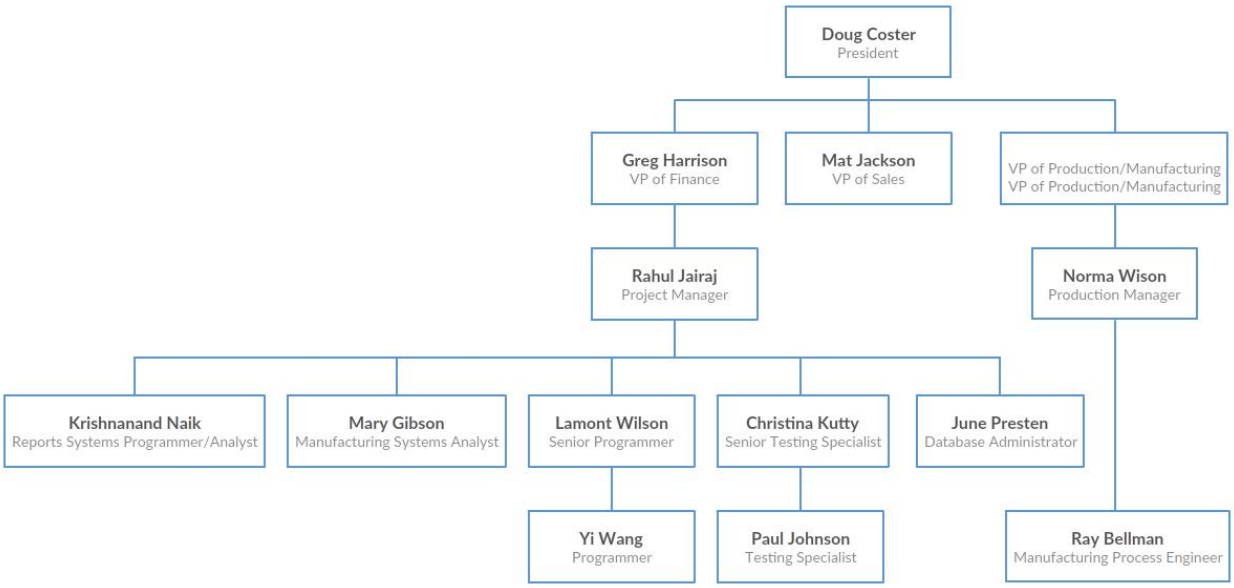
High Level Phases and Sequence

Date	Milestone
April 30th 2018	Project Plan ready
May 11th 2018	Board Presentation
May 11th 2018	Meeting for approval of the project
May 11th 2018	All materials needed for the project, to be ready
June 1st 2018	Implementation Phase begins

Detailed dates for iterations of Requirements gathering, Development and Quality Assurance will be added later.

Project Identification Name: Sight Machine Analytics in CNC Machinery

The Organizational Structure is as follows:



Project Management and Integration Plan

- Plan to follow a hybrid lifecycle methodology, as we'd like the ability to predict costs, time and resources and keep the flexibility of adaptive methodologies, due to the open nature of the implementation problem at hand.
- There needs to be daily stand up meetings with the team to monitor progress of the project.
- There needs to be weekly communication to higher ups to keep them in loop with the project on-goings.
- Have in the production/manufacturing team in the loop, as they would have good product knowledge and would be able to provide valuable feedback to the progress of the project.
- Have approval points for the project plan, cost and schedule estimates and the work breakdown structure.
- Perform the cost analysis, including the machinery needed and the employees needed for completing the project, to set budget and report for approval.
- Perform the schedule analysis to verify the hours potentially needed for competing the project, and submit for approval.
- Perform staff analysis to determine who needs to be on the team and for how long, based on the schedule analysis previously done.
- Constantly update Risk Management sheet and share with stakeholders to keep them aware of potential risks and actions planned.
- Set a buffer for making up uncompleted activities/extra entries that came up in the product backlog before final delivery.

- Quality Assurance, before delivery, and Quality Control, after delivery, with test cases, need to be undertaken by the team to ensure continued performance of the machinery with the analytics, on par with industry standards.
- A final report with the entire backlog, test status for each, identified defects, what went well and what didn't go well.

Risks/responses

Risk	Probability	Impact	Risk Management Plan
Additional data is needed for the new analysis process, which is beyond the capabilities of Nolte's servers running JobBoss, at this point in time.	High	High	Sight Machine has committed to handling the data requirements and moving it to the cloud.
This new implementation is likely to affect several different areas of the organization, and has dependency from different parts.	Medium	Medium	Remedy is to include them in the executive groups as key stakeholders so that they would be aware how this would be affecting them and vice versa, if there are any steps the team needs to undertake to remedy any issues that may prevail.
Since this is a new implementation, support will be limited within the organization.	High	Medium	Nolte will be highly dependent on Sight Machine's product support.

Signatures of Key Decision Makers

Member	Role	Company	Signature
Doug Coster	President	Nolte Precise MfG.	
Greg Harrison	VP Finance		
Rahul Jairaj	Project Manager	Nolte Precise MfG.	
Chris Dobbrow	SVP Sales	Sight Machine	
Kurt DeMaagd	VP Analytics	Sight Machine	
Ryan Smith	VP Engineering	Sight Machine	
Curtis Kellman	Client Implementation Technology Analyst	Sight Machine	
Executive Groups	Members will be added later	Nolte Precise MfG.	
Board of Directors	Members will be added later	Nolte Precise MfG.	