IPRO 306

Continiuous improvements of the Global Supply Chain for a Plumbing Systems Manufacturer

Sloan Valve Company

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Summary

I Abstract

The IPRO 306 team for the Spring '09 semester is sponsored by Sloan Valve Company, a long-standing family owned company, to assist in supply chain operations. Sloan Valve wishes to both streamline it's processes and increase employee training and understanding of quality control systems. To this end, the IPRO team will assist them on these two projects.

In a time of economic weakness, it is important to most of the companies to cut costs. There are many approaches to this, but Sloan Valve Company has chosen to attempt to refine their supply chain operations in order to further standardize procedures and reduce overhead costs as well as ensure a higher level of accuracy inventory counts and the ability to serve their customer better.

The two aspects of this project include, firstly, an improvement to their scheduling system. The IPRO team will further integrate Sloan Valve's processes with their internal system to support production through the procurement and scheduling of materials while optimizing inventory levels, turns and in-stock levels. Through the development of a new production scheduling procedure, they hope to achieve a faster turnaround date for product and more accurate tracking of stock as well as giving the customer a more accurate estimation of delivery.

The second aspect is for the IPRO team to prepare and deliver a training course in a common quality control system, as well as assist Sloan Valve Company in the execution of a project related to this system to assist in supply chain operations. The goal of the team in regards to this is to use statistical analysis with the Six Sigma process in order to improve tracking and transfer of parts between departments through employee training and refinement of protocol. This will, in turn, help the company reduce costs and maintain more accurate counts.

II Background

Sloan-Valve Company was started in 1906 by William Elvis Sloan. Mr. Sloan invented the Flushometer which was the first among the line of products they now produce and distribute globally. Their world headquarters is located in Franklin Park Illinois, which is also one of their largest manufacturing sites. Among the thousands of products produced at that facility, the manual flush valve is the main product created there. Castings are received from their Arkansas plant where they are then machined and assembled so they can be shipped out to their various distributors. The site employs up to 600 workers, and its estimated annual sales for 2007 were 50.4 million dollars.

The scope of this IPRO will involve both the development of a new production scheduling protocol and procedure, as well as the development of a college level Six Sigma training package. Currently the company does no scheduling which leads to delayed shipments and wasted man-hours and money on the creation of extra parts. The procedure currently employed by Sloan is a five day wait period where the order must be processed, produced, and shipped out regardless of the type or size of order and without any regard as to how long it will take to process. The company is also looking to overcome quality control problems with their products and management by developing a Six Sigma training package, which will ensure quality in their products and to their customers. This Six Sigma training would like to be implemented globally so that all their factories will produce the same consistent quality Sloan product. Currently there is no global standard within Sloan to ensure that a product made in the United States performs the same as one made in China. This project is overseen by the Vice President of the global supply chain operations of Sloan Valve Steven Rodgers. Overcoming these two major tasks will help the company save money, become more efficient, and ensure good quality and customer service to help them maintain a healthy business. This IPRO will directly affect Sloan-Valve since the company hopes to use what is developed by the IPRO team.

There have been no previous attempts by the company to either employ a scheduling protocol or develop a Six Sigma training package. This is the first attempt by any IPRO team to take on this challenge and the goal is to finish by the end of the semester, providing a presentation to both the company and IPRO.

III Objectives

A Main Objectives

Serve the sponsor company, Sloan Valve, in their projects to reform their current business processes and train employees to increase their overall efficiency.

B Sub Objectives

Create the scheduling protocol for Sloan Valve; this would include creating reports that would be used in the scheduling process and fixing errors in the current system data.

Develop a six sigma training package that will allow the employees to pass the six sigma green belt certification test.

Conduct the training program at Sloan Valve in a module format over several weeks.

Implement the six sigma knowledge in the development of six sigma program that remove the defects in the company's material movements.

Determine what material master data fields are needed for MRP specifically scheduling and ATP (Available to Promise)

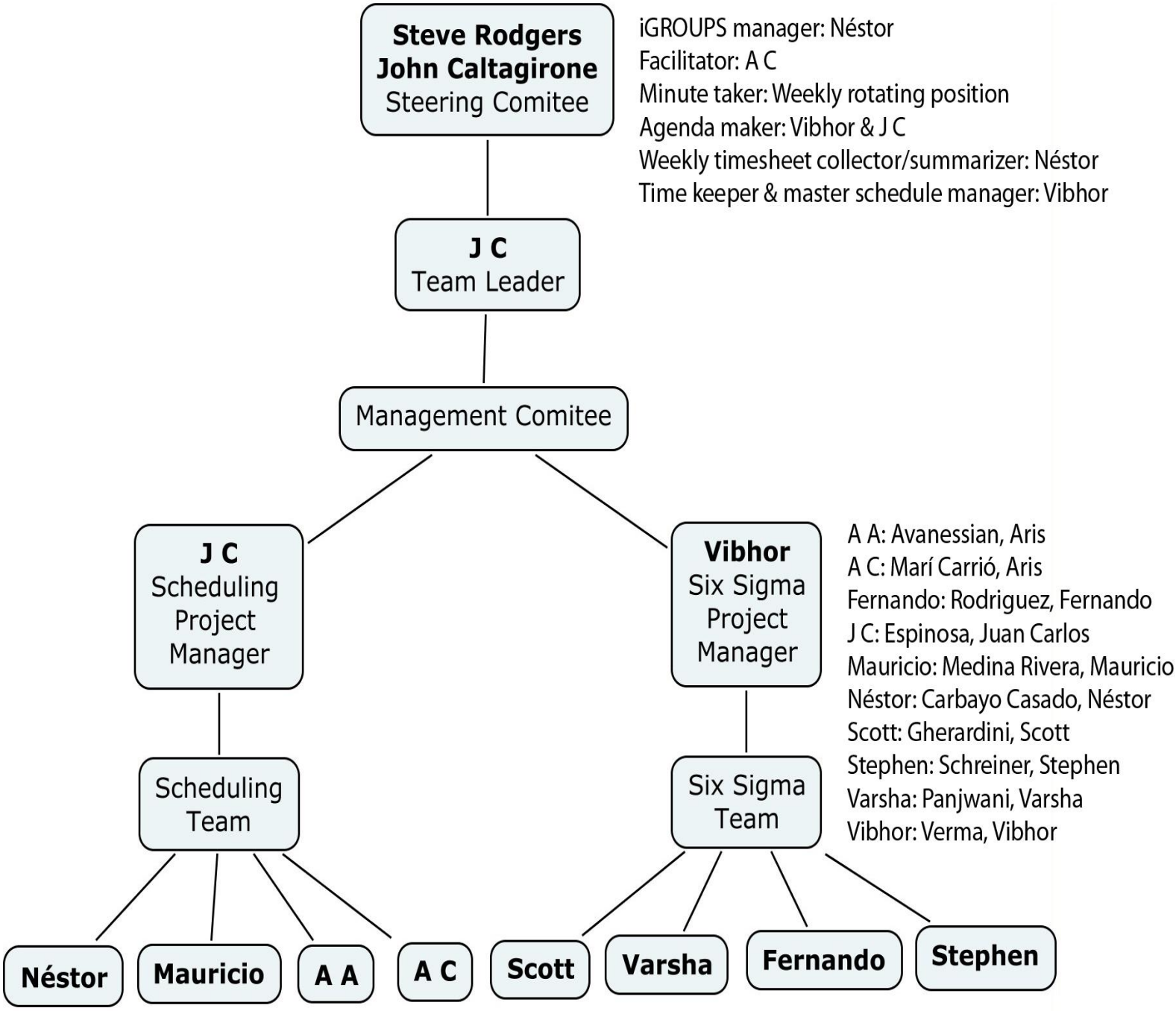
Verify and update current master data needed for ATP and production scheduling

Work with operations and materials to implement a Build to Schedule compliance deliverable for production

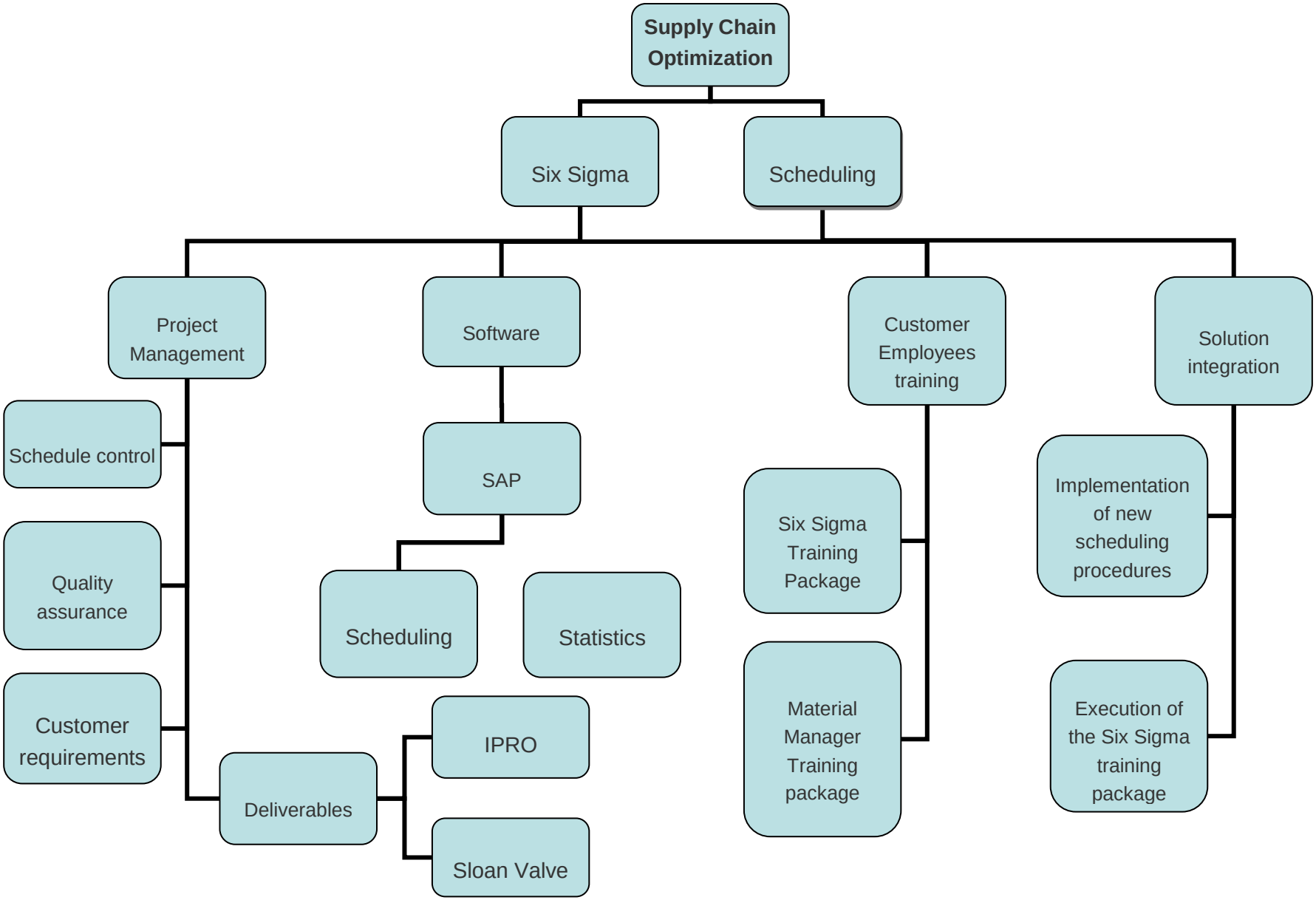
Transition from current scheduling system to new developed protocol

IV Methodology

A Organisation Breakdown Structure (OBS)

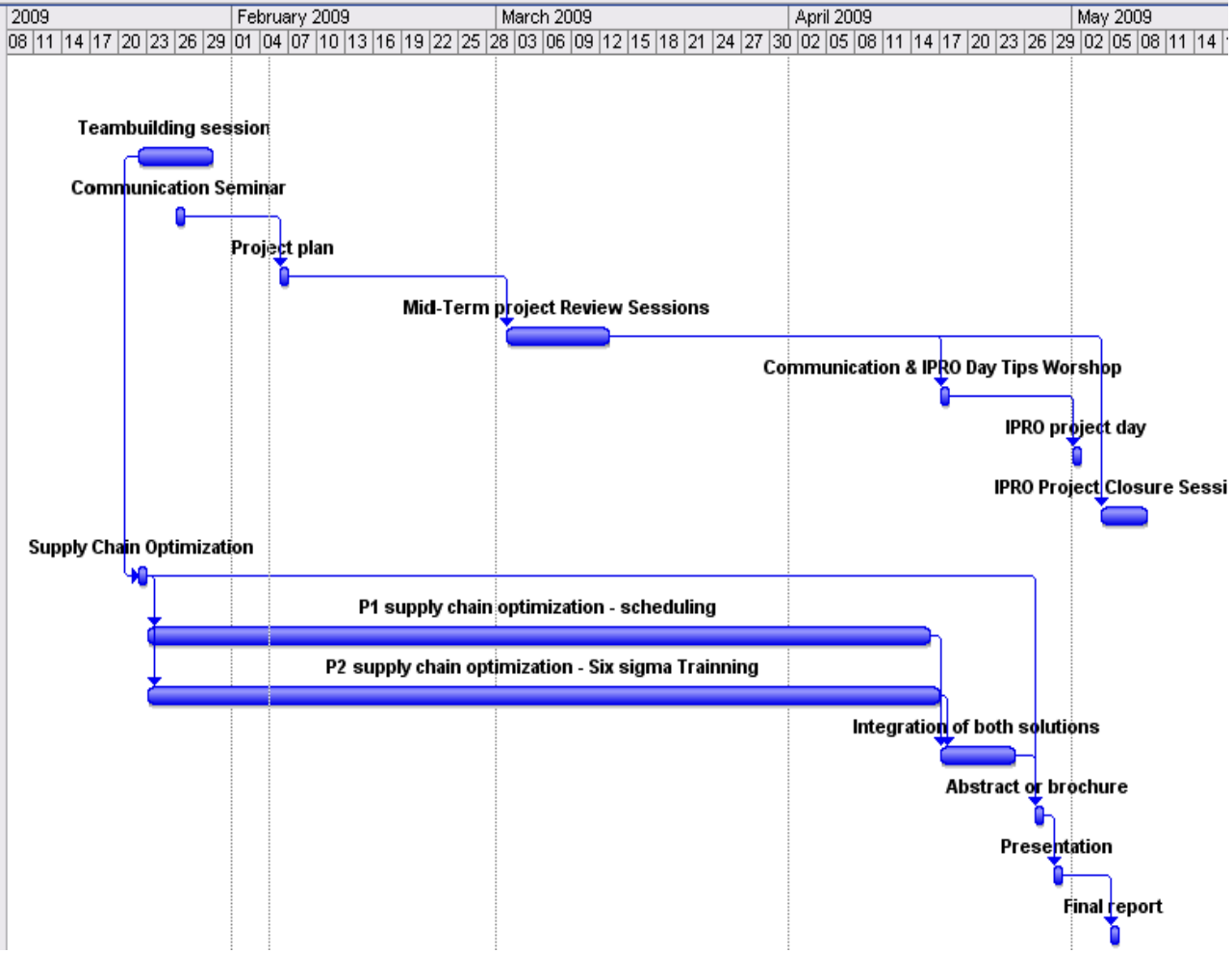


B Work Breakdown Structure (WBS)



C Gantt Chart

	Task Name	Duration	Start	Finish	Predec
1					
2	Teambuilding session	6 days	Thu 22/01/09	Thu 29/01/09	
3	Communication Seminar	1 day	Mon 26/01/09	Mon 26/01/09	
4	Project plan	1 day?	Fri 06/02/09	Fri 06/02/09	3
5	Mid-Term project Review Sessions	9 days	Mon 02/03/09	Thu 12/03/09	4
6	Communication & IPRO Day Tips Worshop	1 day	Fri 17/04/09	Fri 17/04/09	5
7	IPRO project day	1 day	Fri 01/05/09	Fri 01/05/09	6
8	IPRO Project Closure Session	5 days	Mon 04/05/09	Fri 08/05/09	5
9	Supply Chain Optimization	1 day	Thu 22/01/09	Thu 22/01/09	2SS
10	P1 supply chain optimization - scheduling	59 days?	Fri 23/01/09	Wed 15/04/09	9
11	P2 supply chain optimization - Six sigma	60 days?	Fri 23/01/09	Thu 16/04/09	9
12	Integration of both solutions	6 days	Fri 17/04/09	Fri 24/04/09	11;10
13	Abstract or brochure	1 day?	Mon 27/04/09	Mon 27/04/09	9;12
14	Presentation	1 day?	Wed 29/04/09	Wed 29/04/09	13
15	Final report	1 day?	Tue 05/05/09	Tue 05/05/09	14



V Budget

IPRO 306 Budget		
Expense Type	**Cost**	**Rationale**
Travel and food	$960	Every Wednesdays (5 people) and Thursdays (5 people) for 16 weeks we travel to the company: -Fuel:10 USD per trip, so 160 USD (information is already given to Mrs Keplinger) -Meals: Each lunch cost 5 USD in the Company Cafeteria. Therefore, per week we need 50 USD. As we will go 16 weeks, so 800 USD for the whole period
Consultant	$500	Maybe we will need to hire a SAP supply chain expert (consultant)
Office Printing	$100	- We will need to print final reports for the company
TOTAL	**$1 560**	

VI Team Structure and Assignements

A Team Structure

Skill Set List

Team Member	Major	Phone Number	Regular e-mail	Excelled Skills	Not-So-Excelled Skills	Previous professional	IPRO task
JC	Master's degree in Industrial Technology	773-556-6290	espinosajuancarlos@yahoo.fr	Project Management skills, Ganntt charts, Organisation,work breakdown structures, and layouts. (Experience in Kaizen projects and 5S	Code	Internship in SIEMENS implementing 5S Methodologies	Scheduling project
Nestor	Master's degree in Industrial Technology	312-662-8685	ncarbayo@iit.edu	Microsoft Paint, Tasks breakdown and assignment	x	Internship at Ford working with production	Scheduling project
Aris c.	Master's degree in Industrial Technology	312-480-9556	acarrio@iit.edu	I'm a great organizer and coordinator	Handwriting	None	Scheduling project
Mauricio	Master's degree in Industrial Technology	773-272-8667	maumedrivera@gmail.com	ISO 9001 (quality managmet, Gantt, reports, procedures, organization). Planning, programming.	x	7 years in a steel mill as chief in production workshops	Scheduling project
Varsha	Undergrad Industrial Technology and	978-394-1542	vpanjwan@iit.edu	Project Management, Problem Solving techniques, report writing skills, Ms Excel, Ms Access, PowerPoint and front Page	Software Development	None	6 sigma
Vibhor	Master's degree in Industrial Technology	630-687-0948	vverma13@iit.edu	Customer Service, Adobe, MS Smite, Business Development	Excel	None	6 sigma
Fernando	Master's degree in Industrial Technology	773-698-5199	frodrig2@iit.edu	Experience with ISO 9001 and 14001 implementations. Problem solving, tolerant and good teamwork member	x	None	6 sigma
Aris A.	Undergrad in Architectural Engineering	847-915-1044	aavaness@iit.edu	Work well with computers and most software. Fast learner, easy to coordinate with and get along with people.	x	None	Scheduling project
Stephen	Computer Information Systems	630-229-4826	sschrein@iit.edu	Strengths are primarily in programming, modelling and database aspects as well as general tasks like documentation	Leadership, Getting around - I commute from Wheaton/Rice Campus	None	6 sigma
Scott	Mechanical Engineering (Undergraduat	847-990-0460	sgherard@iit.edu	Fast Learner	Public Speaking	IPRO with Abrasive Form implementing a Share Point Solution	6 sigma

B Team availability

Availability Schedule to Visit Client

Monday	8 to 9	9 to 10	10 to 11	11 to 12	12 to 1	1 to 2	2 to 3	3 to 4	4 to 5	5 to 6	6 to 9
JC											
Nestor											
Aris					■						■
Mauricio	■	■	■	■	■	■	■	■	■	■	■
Varsha											■
Vibhor									■	■	
Fernando											
Scott			■	■	■						■
Aris	■	■	■	■	■	■	■	■			
Stephen											

Tuesday	8 to 9	9 to 10	10 to 11	11 to 12	12 to 1	1 to 2	2 to 3	3 to 4	4 to 5	5 to 6	6 to 9
JC											■
Nestor											
Aris					■						■
Mauricio											
Varsha			■	■				■	■		
Vibhor						■	■				
Fernando											
Scott											
Aris											
Stephen											

Wednesday	8 to 9	9 to 10	10 to 11	11 to 12	12 to 1	1 to 2	2 to 3	3 to 4	4 to 5	5 to 6	6 to 9
JC											■
Nestor											■
Aris											■
Mauricio											
Varsha											
Vibhor			■	■	■	■					
Fernando											
Scott			■	■	■						■
Aris											
Stephen											

Thursday	8 to 9	9 to 10	10 to 11	11 to 12	12 to 1	1 to 2	2 to 3	3 to 4	4 to 5	5 to 6	6 to 9
JC	■	■	■	■	■	■	■	■	■	■	■
Nestor											
Aris											■
Mauricio	■	■	■	■	■	■	■	■	■	■	■
Varsha				■	■	■	■				
Vibhor											
Fernando											
Scott											
Aris	■	■	■	■	■	■	■	■	■	■	■
Stephen			■	■	■	■	■				

Friday	8 to 9	9 to 10	10 to 11	11 to 12	12 to 1	1 to 2	2 to 3	3 to 4	4 to 5	5 to 6	6 to 9
JC	■	■	■	■	■	■	■	■	■	■	■
Nestor											
Aris					■						■
Mauricio	■	■	■	■	■	■	■	■	■	■	■
Varsha											
Vibhor											
Fernando											
Scott											
Aris										■	■
Stephen											

Saturday	8 to 9	9 to 10	10 to 11	11 to 12	12 to 1	1 to 2	2 to 3	3 to 4	4 to 5	5 to 6	6 to 9
JC											
Nestor											
Aris											
Mauricio											
Varsha											
Vibhor											
Fernando											
Scott											
Aris	■	■	■	■	■	■	■	■	■	■	■
Stephen											