

SME NEWSLETTER



February 2005

Chapter 28 Golden Gate

Chair's Message



2004 was a highly successful year for SME Chapter 28, Golden Gate! We successfully initiated and conducted 7 tours. We have increased our leadership from 5 to 7 Chapter members. We have kept the chapter alive and well!

We are actively seeking member participation for ideas on events, tours, and dinner meetings to create opportunities for networking.

Our **2005 goals** include the following:

1. Conduct 6 events for members.
2. Continue joint chapter activity with Silicon Valley SME Chapter.
3. Involve members in tours

at their companies.

4. Use email automated meeting notices.
5. Increase advertising in newsletter.
6. Add articles by members to the newsletter.

We will implement an automated meeting / tour notices to improve communication and efficiency. To focus efforts on chapter growth, we had a joint chapter activity meeting on February 4 to discuss the possibility of having an annual SME event for the Bay Area. The Chico State Chapter is also interested in more activities. Our ideas and efforts should crystallize in the next few weeks.

As you might have noticed,

we have improved our newsletter format to reduce cost and to make it easier to create. Thanks to JoAnne Moody for accepting the Newsletter Editor position. Read on!



**Swami Vangal -
Ramamurthy,
Chapter Chair**

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Choosing the Right Software for Manufacturing By Walt Maclay - Voler - Division of Strawberry Tree Inc.

Highlights:

Chair's Message
Software
Events
Chico State
Advertisements
Various

When choosing software for manufacturing, your decision should be based on several key factors. To assist your selection process, this article briefly reviews hardware, software, speed, and cost factors.

Hardware platforms -

Single loop controllers are useful in applications with simple inputs such as temperature to control heaters. Motor controllers are used to control speed, acceleration, and direction of movement of motors and robots.

Vision systems may use a dedicated controller or a PC. The Programmable Logic Controller (PLC) has a long history of flexibility and reliability in control. Many can now interface to motion control, vision processing, and color touch screens. The PC has the most hardware options and software choices. It excels at graphical displays, interacting with humans, generating reports, and interconnecting many devices through Ethernet networks, USB, serial, and other ports.

Software - Choices vary by the type of hardware. Controllers have built in software. PLCs usually work only with the manufacturer's own software for ladder logic programming. PCs have many software choices. For flexible Human Machine Interfaces (HMI), PC software programs include InTouch from WonderWare, RSVIEW from Rockwell, and Lookout from National Instruments. There are less sophisticated, less expensive PC programs such as

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Software, from Page 1

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Look up SME's featured event, WESTEC 2005 Exposition & Conference, Los Angeles on www.sme.org.

Factory Floor, DASyLab, and TestPoint. Special applications may be written in C, Visual Basic, or LabVIEW for speed or flexibility. Many vision applications are written in C using libraries of vision functions provided by the vision equipment manufacturer.

Speed - Many PLCs execute instructions every 1 to 10 milliseconds. Fast PLCs can execute instructions in as little as 10 microseconds. A modern 3 GHz Pentium PC can do the equivalent about every microsecond, although it is

hard to compare the speed, because of the difference in their design. A PLC has a fixed rate of executing instructions (until the program is so large it cannot run at the fixed speed). A PC, on the other hand, executes a program as fast as it can. As the program gets larger, the speed gets slower. Even worse, if there are many applications running, the PC speed is unpredictable. In some cases a Windows PC can take seconds to react, which could be disastrous in a control application.

Cost - Prices start at \$150 for

controllers, \$300 for PLCs, and \$500 for PCs, although prices can be many times higher depending upon features. HMI software starts around \$5,000 to \$10,000 for small applications, and can be many 10's of thousands. Less sophisticated PC software is about \$1,000. Custom programming can range from a few thousand to hundreds of thousands of dollars.

Summary - continued

Walt Maclay, Voler
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SME Events Calendar

EVENTS	Location	TARGET DATES / TIMES
ABI Foundry Tour	Oakland	March 15
WESTEC 2005	Los Angeles	April 4-7
Adept Technology Tour	Livermore	May 18
Alumni & Rummell Fandango (Party)	Chico State	June 4
SME National Meeting	Baltimore	June 1-5
OPEN	OPEN	August 10
Nummi	Fremont	September 15, 12:30 pm
OPEN	OPEN	October 12
Applied Materials	San Jose	November 10
Annual Meeting	San Jose	November

NOTE: As events are finalized, notices will be emailed. To register, send an email to sme_ch028@yahoo.com, or swamiv@adept.com.

Manufacturing Technology @ Chico State

By Dirk Vanderloop, Student Chapter Advisor

Members of SME Student Chapter S-139 are busy building and testing their prototype entry for this year's intercollegiate competition at WESTEC--the Manufacturing Challenge. Chico students designed a lever-operated wheelchair for increased safety and

efficiency. If you are at WESTEC on Monday, April 4, 2005, check out your Student Chapter's booth in the LA Convention Center's South Hall.

If you are looking for talented intern students, or experienced manufacturing

alumni, post your job opening on the Chico's Manufacturing Technology website www.csuchico.edu/mem for free. Contact the Student Chapter Advisor, Dirk Vanderloop at dvanderloop@scuchico.edu.

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Enjoy our promotion to publish your Ad in the newsletter for FREE for the 2 newsletters with no further obligation!

Leonard Ginsburg, President/Chief Engineer, Production Robotics, Inc., received positive results from his FREE Ad in the SME newsletter. "I am very pleased with the results of my advertisement in the local SME chapter newsletter. In less than a week after my ad first appeared, I got a call from a member who needed help in automating his manufacturing process. I can see that this is a great way to reach the manufacturing community. Thank you for this opportunity!"

Swami Vangal - Ramamurthy, Chapter Chair

Software, from Page 2

Summary - A wide variety of choices and combinations of software, controllers, PLCs, and PCs exist. In addition, your company may already have a standard software package that is preferred. Sometimes the best choice is the software you already know, but it's important to know what choices are available.

Walt Maclay, Voler Please see Ad on Page 4.

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Initial meeting provides complimentary overview evaluation of operations and report.

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Process Flow Automation/Semi-automation

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Outsourcing Product line rationalization

Medical /Consumer /Biotech Operations

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SME Chapter 28 Officers

SME is on the Web!

Log on to SME Chapter 28
Web Site:
<http://chapters.sme.org/028/homepage.htm>

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Chapter 28:
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What SOFTWARE is right for my process?

Ladder Logic? HMI? C? **Visual Basic? PC?**

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- Visit www.volersystems.com for examples of our work.
- Contact Walt Maclay at walt@volersystems.com or call 408-245-9844 for a consultation and proposal.

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