



March 2012 - Vol. VI, Issue 3



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Greetings!

March has been an eventful month. Electro-matics Technology Tip-off proved to be a successful event once again this year. Our Senior Engineer, Duane Edgar enjoyed sharing his knowledge as a speaker for the event. Duane provided [valuable tips on using Siemens PLC Simulator tool](#) to improve Siemens software development efficiency.

While Duane was teaching, our other engineers, Ed Maurer, Dave Malkan and co-op Travis Bauman were perhaps having too much fun playing Robot Basketball! Now that's a new take on a little March Madness!

So here is how it works. The robot has a Siemens S7-1200 PLC mounted on it to control the game operations. It is programed to keep moving towards you until you make a basket. The hoop moves up and down randomly to make the shot more difficult. After you make your basket, it turns and moves toward your opponent until he makes a basket. For celebratory purposes, an array of LED's light up when a basket is scored. Each time a basket is scored the robot moves faster to make it more difficult. If the robot makes it all the way to you, your opponent wins! The robot also keeps score for you. Our engineers came up with this idea during our first ever FedEx day. Got to love those engineers, they do like to have fun!



Robot Basketball

To round out the robotics/basketball theme this month, our article is about the FIRST Robotics Competition. Dean Kamen is an inventor, entrepreneur, and tireless advocate for science and technology. His passion and determination to help young people discover the excitement and rewards of science and technology are the cornerstones of FIRST (For Inspiration and Recognition of Science and Technology). The theme for this years' robot building competition involves basketball. We are proud to be sponsoring six high school teams.

President of Patti Engineering, Sam Hoff, is sporting a new look these days. Earlier this week, Sam and his son Sammy had their heads shaved to raise money for St. Baldrick's . The St. Baldrick's Foundation is a volunteer-driven charity committed to funding the most promising research to find cures for childhood cancers and give survivors long and healthy lives. Cheers to Sam and Sammy, they surpassed their \$5,000 goal! If you would like to donate to the cause [click here](#). Below are their before and after pictures.



Before



After

The Patti Personnel spotlight is on our Vice President of Operations, Ken Kutcheck. Ken's been a key team leader here at Patti Engineering since 1997.

We always love your feedback. Let us know if there is a specific automation topic you are interested in or if you have comments on what we have covered here.

Thank you for your interest in Patti Engineering!

Best regards,

Georgia H. Whalen

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FIRST Robotics Competition



Dean Kamen, founded FIRST in 1989 to inspire young people's interest and participation in science and technology. FIRST's 'mission is to inspire young people to be science and technology leaders, by engaging them in exciting mentor-based programs that build science, engineering and technology skills, that inspire innovation, and that foster well-rounded life capabilities including self-confidence, communication, and leadership.'

Dubbed a varsity Sport for the Mind,[™] FRC combines the excitement of sport with the rigors of science and technology. Under strict rules, limited resources, and time limits, teams of 25 students or more are challenged to raise funds, design a team "brand," hone teamwork skills, and build and program a robot to perform prescribed tasks against a field of competitors. It's as close to "real world" engineering as a student can get. Professional Mentors volunteer their time and talents to guide each team.

High-school students get to:

- Work alongside professional engineers.
- Build and compete with a robot of their own design.

- Learn and use sophisticated hardware and software.
- Be exposed to design, project management, programming, teamwork, strategic thinking and Coopertition™.
- Earn a place in the Championship.
- Qualify for over \$14 million in college scholarships.

Read more about [FRC](#) or contact frcteams@usfirst.org



2012 Rebound Rumble Game

The Rebound RumbleSM robotics game is played between two Alliances of three teams each. Each Alliance competes by trying to score as many of the basketballs in the hoops as possible during the 2-minute and 15-second match. Balls scored in higher hoops score Alliances more points. Alliances are awarded bonus points if they are balanced on bridges at the end of the match. In matches where opponent Alliances work together to balance on the white bridge, all participating teams earn additional valuable seeding points.

Patti Engineering is proud to be supporting six teams for this years FIRST competition, including: Royal Oaks Schools, Notre Dame Prep, Clarkston Community Schools, Lake Orion, Oxford High School and Troy High School. Several of our teams will qualify to compete in the state finals. We will find out which teams will make the cut this Sunday. Ken Kutchek, Patti Engineering's VP of Operations, is a mentor/coach for the program at Lake Orion High School where his son Kyle is on their First Robotics Team 302. Ken had the following to say about his experience with the program:



"First Robotics is a great program. It provides hands-on learning of science and engineering and technology in a very fun and exciting and competitive environment. High school students learn skills they will use for the rest of their lives..... idea generation, creative thinking, quantitative decision making, mechanical design, 3D CAD, fabrication, electrical design, software development, automation, troubleshooting, in addition to project management, time management, self-confidence, team work, communication, finances and leadership. The competitions are high energy and lots of fun, it makes all the hard work and dedication of planning and preparing worthwhile. Many of these First Robotics students will become the great engineers of tomorrow. "

We wish all of our teams luck as they compete in the state finals!

Robotics have been an expertise of Patti Engineering from the very start of our company. Fanuc Robotics was our very first customer and they are still a customer today. We worked on the controls of their Robotic Paint Systems. For more information on our robotics expertise, [visit our website](#), call, or email us at management@pattieng.com.

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Patti Personnel - Ken Kutchek



Ken Kutchek

Ken Kutchek holds the position of Vice President of Operations and has been with Patti Engineering since 1997. Ken oversees project execution (hardware design, CAD, software development, installation and start-up/testing), scheduling, recruiting, training, quality control, policies/procedures, safety, and UL certification.

Ken earned a BS in Electrical Engineering from Illinois Institute of Technology (IIT) in Chicago and is a licensed Professional Engineer in Michigan and Texas. He has more than 20 years experience in electrical engineering and automation controls. Prior to Patti Engineering, Ken owned and operated an Energy Conservation business helping commercial/industrial clients improve facility efficiency and reduce energy use and energy costs. Ken also worked for Dupont 6 years doing manufacturing automation and process control.

According to Sam Hoff, president of Patti Engineering, "Ken is a hard working, dedicated engineer and manager. Ken has been a great contributor to our success. Regardless of the task at hand, Ken is very thorough with a keen attention to detail. Now, if we could just work on his choice of teams in football! It would be nice if he could trade the green and gold for Honolulu BLUE!"

Ken lives in Lake Orion Michigan with his wife Melissa and 15 yr old son Kyle. Ken really enjoys helping, working with, and teaching kids. Ken is assistant scoutmaster at Boy scout Troop 186 and is also an mentor/coach on Lake Orion First Robotics Team 302.

Ken enjoys relaxing by working on and playing with his toysboating, water skiing, tubing, jetskiing, hanging out on the pontoon boat , snowmobiling, and cruising in his 1965 Mustang convertible.

Ken also enjoys helping out with Habitat for Humanity, Christmas in Action and Meals on Wheels. Ken and Sam originally met while working on Habitat For Humanity Blitz Build in Pontiac.



Ken Melissa and Kyle enjoying a Lions game

When not working at Patti or working with the boyscouts or robotics team, he is working his "2nd job" of completely remodelling the inside and out of a 90 year old "lake cottage" on Lake Orion.



Ken and Melissa out on Lake Orion

