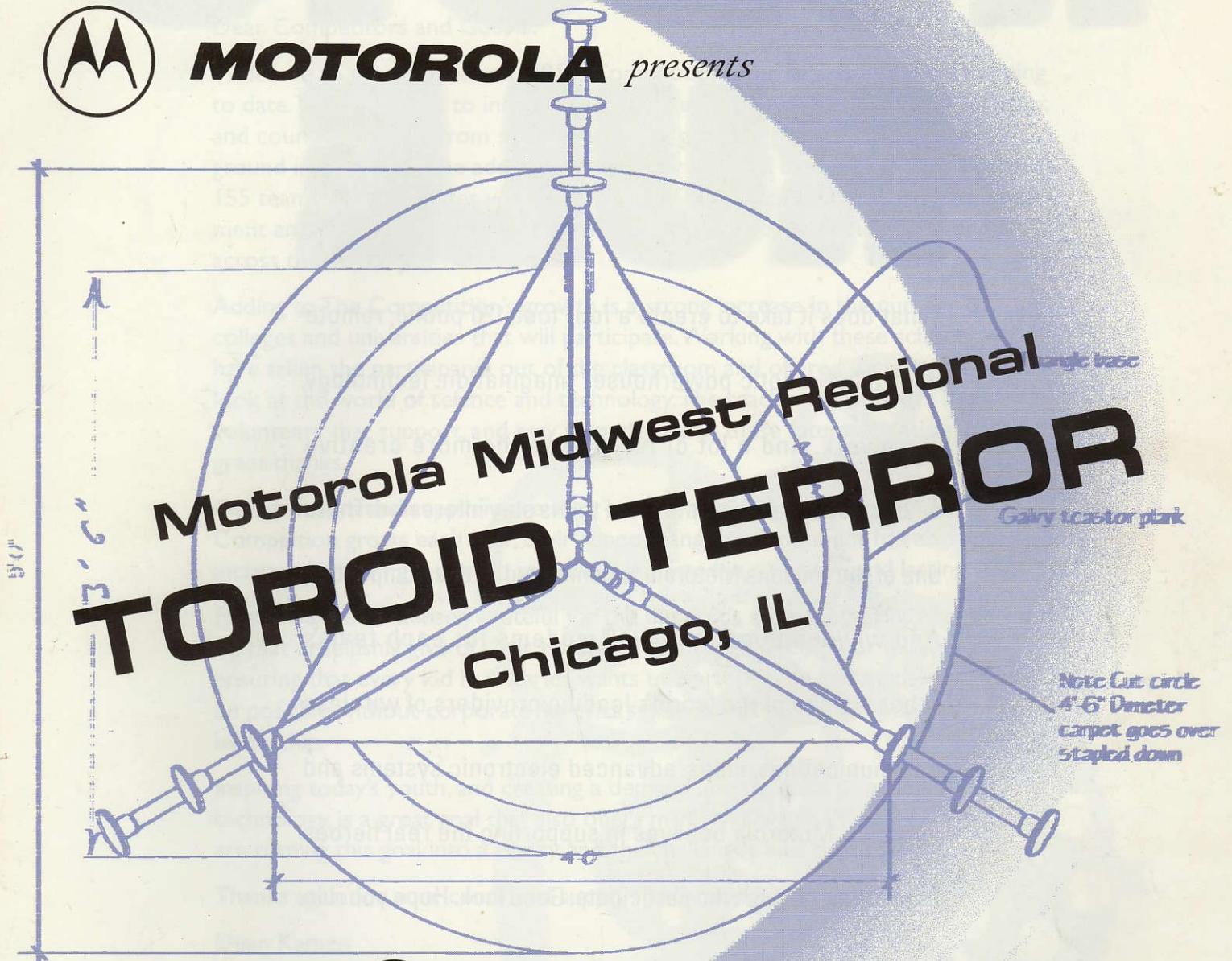


FIRST

The COMPETITION



MOTOROLA presents



MOTOROLA



Goal Plan

 Autodesk. **Honeywell** Johnson & Johnson **Baxter**

 **CHRYSLER CORPORATION**

 **SMALL PARTS INC.**

DEKA

Procter & Gamble

1997



Welcome

Dear Competitors and Guests:

Welcome to the sixth annual FIRST Competition--our largest and most exciting to date. Thanks in part to industry leaders like Motorola and Johnson & Johnson, and countless people from schools and civic groups, FIRST is breaking new ground in 1997 with the addition of two new regional events. This year, a record 155 teams from 30 states will participate in The Competition bringing the excitement and rewards of science, math and technology to thousands of students across the country.

Adding to The Competition's growth is a strong increase in the number of colleges and universities that will participate. Working with these schools, we have taken the participants out of the classroom and offered them a first-hand look at the world of science and technology. The teachers, professors and volunteers that support, and may someday teach these future scientists, deserve great thanks.

Our sponsors and suppliers are also integral to FIRST's success. As The Competition grows each year, their support and commitment has also greatly increased ensuring that each student is impacted in a positive and lasting way.

Finally, we are immensely grateful for the hundreds of corporations and individuals that unselfishly give of their time, energy and resources. Our mission of ensuring that every kid in America wants to learn science and math would not be possible without corporate America's unmatched powers of persuasion and leadership.

Inspiring today's youth, and creating a demand among them to excel in technology, is a great goal that also offers many challenges. Working together we are turning this goal into a reality and the challenges into rewards.

Thanks again for your continued support and commitment.

Dean Kamen
Founder, FIRST

Regional Competition JUDGES AWARDS

FIRST-The Competition list of winners includes the following awards presented by the Judges:

Honeywell

Leadership in Control Award

Awarded to the team displaying the most innovative control system or application of control components to provide unique machine functions.

Johnson & Johnson

Best Sportsmanship Award

Awarded to the team displaying the best sportsmanship and continuous gracious professionalism in the heat of The Competition.

Chrysler Team Spirit Award

Awarded to the team that exhibits extraordinary enthusiasm and spirit through an exceptional partnership which thrives on teamwork.

Motorola

Quality Award

Awarded to the team displaying the most robust design, that is, the project that best exhibits the relationship between quality of design, quality of construction and quality of performance.

Procter & Gamble

Creativity Award

Awarded to the team displaying the most creative design, use of a component or the most creative or unique strategy of play.

Best Play of the Day

Number One Seed

Outstanding Defense

Most Photogenic

Best Offensive Round

Lightest Machine in Finals

Rookie All-Star

National Championship Awards

Autodesk Award

for Excellence in Engineering Creativity and Communication

Awarded to the team who clearly and creatively presents design solutions for The Competition-1997 through computer modeling and animation using the software provided by Autodesk.

Woodie Flowers Award

presented by Small Parts

Awarded to an individual participating in The Competition who best demonstrates excellence in teaching science, engineering, math and creative design.

Chairman's Award

The Chairman's Award is presented to the team which achieves excellence by working well together. Judging criteria include the level of student participation, teamwork, team spirit, creativity of effort and overall cooperation and effectiveness between school and partner. The judging panel reviews materials, which may consist of videos, photos, or written chronicles submitted by teams prior to the National Championship. The traveling trophy for this prestigious honor is a high-tech, custom crafted Dean Kamen clock, which the New York Times called "Art that Ticks."

WPI

Design Innovation Scholarship

All teams participating in The Competition-1997 will qualify for the WPI Design Innovation Scholarship. The winning team will be selected through a vote conducted by all the teams. All votes must be submitted to FIRST in time for the final awards ceremony to take place at the National Championship at Disney World on April 10-12, 1997. The scholarship award will be presented to the team who receives the most points.

Founder's Award

The Founder's Award is presented by Dean Kamen to the organization or individual that best promotes the ideals and goals of FIRST. Past winners of the Founder's Award include Motorola (1993), Honeywell (1994), and Walt Disney World's Epcot (1995). The 1996 winner of the Founder's Award was presented to the City of Manchester, New Hampshire for its contribution of a 150,000 square foot mill building to be the National Headquarters for FIRST and the home of a new science and technology center.

FIRST Founder

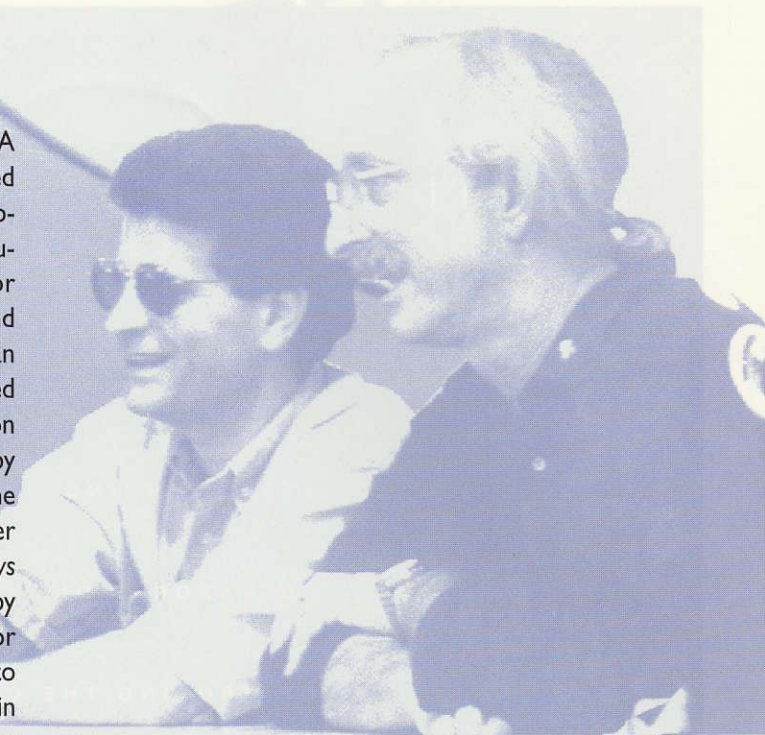
Dean Kamen

Dean Kamen is President and owner of DEKA Research & Development Corporation, a New Hampshire based company specializing in advanced technologies in medical equipment. He is chairman and owner of Teletrol Systems, Inc., a manufacturer of electronic environmental control systems for commercial and industrial buildings. A physicist, engineer, and inventor, he holds more than forty patents. In 1976, while an undergraduate at Worcester Polytechnic Institute, he founded Auto Syringe, Inc., to produce the world's first wearable infusion pumps. In 1988, Dean was named Entrepreneur of the Year by the New Hampshire High Technology Council, and in 1992, he received an honorary doctorate in science from Worcester Polytechnic Institute. In 1994, he was named *Design News Magazine's* Engineer of the Year and was honored as a 1994 Kilby Award Laureate. In 1994, he earned the Hoover Medal for "Innovative and imaginative leadership in awakening America to the excitement of technology and its surpassing importance in bettering the lot of mankind," as stated by the American Society of Mechanical Engineers. Dean is a Fellow with the American Institute for Medical and Biological Engineering (AIMBE), and a member of the Engineering Society for Advanced Mobility, Land, Sea, Air and Space (SAE), the American Society of Mechanical Engineers (ASME), and the Society of Plastics Engineers (SPE). This year he was elected to membership to the National Academy of Engineering.

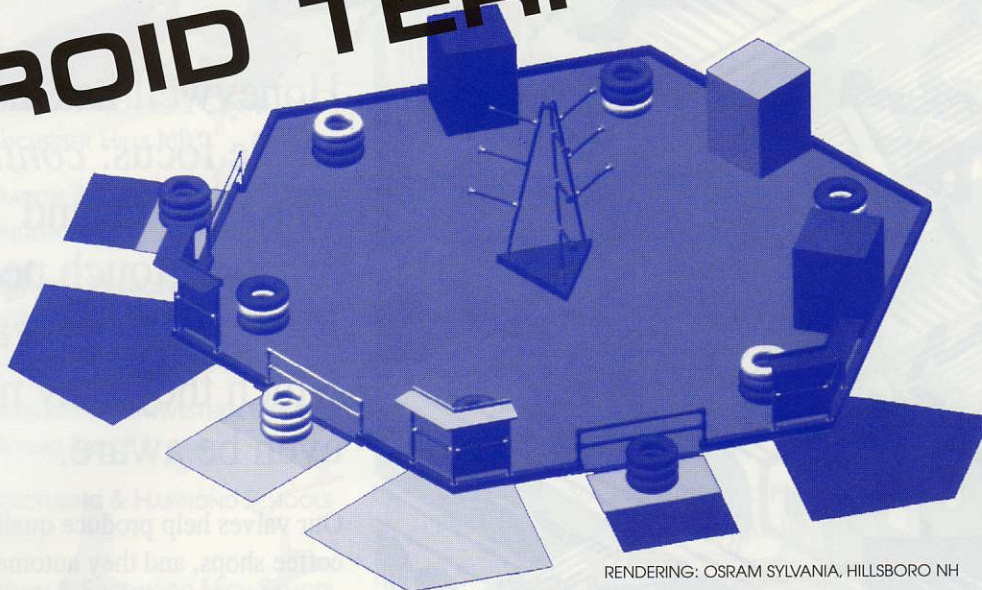
FIRST Advisor

Woodie Flowers, Ph.D.

Woodie Flowers is the Pappalardo Professor of Mechanical Engineering, Director of MIT's New Products Program, and Faculty Chairman of the Design Studio of the Future. He received a BS from Louisiana Polytechnic University and an S.M., M.E., and Ph.D. degrees from MIT. His current research includes work on the creative design process and product development systems. He helped create MIT's renowned course "Introduction to Design". Dr. Flowers also received national recognition in his role as host for the PBS television series *Scientific American Frontiers* from 1990 to 1993. He was recently elected to the National Academy of Engineering and received an Honorary Doctor of Humane Letters from Daniel Webster College. He is a MacVicar Faculty Fellow for extraordinary contributions to undergraduate education from MIT. Woodie was the Inaugural Recipient of the Woodie Flowers Award by FIRST. Currently, Dr. Flowers is on the Board of Directors of The General Scanning Corporation, NYPRO Inc., a National Advisor for FIRST, a Trustee for Boston's Museum of Fine Arts, and is a member of the Historical Commission in Weston, Massachusetts.



TOROID TERROR



RENDERING: OSRAM SYLVANIA, HILLSBORO NH

Over 150 schools, companies, and universities from all across the United States built "robo-gladiators" to compete in FIRST-The Competition 1997.

The Playing Field

The playing field is a carpeted, hexagon-shaped area with a central goal. Around the perimeter of the field are three stations for human players, who work with the remote-controlled robots on the field to score points. At the start of each match, each team has 3 colored inner tubes at their player station and six tubes on the field, located in stacks distributed evenly around the goal.

The Robots

The robots were designed and built by the school/engineering teams during a six week period and were constructed from a wide range of materials including aluminum, fiberglass, plywood, PVC pipe, and structural foam. Each robot can weight up to 120 pounds, and must start each match small enough to fit inside a 3' x 3' x 4' space.

The robots are powered by two Skil 12V rechargeable batteries and use motors from Skil, Delco, and Delphi Interior and Lighting, speed controllers from Tekin, pumps from McCord Winn Textron, air cylinders and valves from Numatics, and a programmable control system supplied by FIRST. Drivers use joysticks from CH Products and switches from Honeywell to remotely control the robots via a radio link which uses RNet wireless modems from Motorola.

Scoring Points

In two minute matches, the three robots and human players score points by placing the inner tubes onto pegs on the goal, or around the top of the goal. The tubes are color-coded to identify team ownership. Human players are not allowed onto the field, but they may hand tubes to the robots or throw tubes directly onto the goal.

At the end of each match, each tube on the goal is worth one point. Each tube on the top of the goal will double a team's score. In addition, each vertical row of three tubes on a corner of the goal will double a team's score.

The winner of the match is the team with the highest score. In the event of a tie, the team with the highest tube in a scoring position wins.

Motorola Midwest Regional Competition **TEAMS 1997**

3-DIMENSIONAL SERVICES & OAKLAND TECHNICAL CENTER, NORTH-EAST CAMPUS (OTC-NE) (ROCHESTER HILLS MI)

BAXTER HEALTHCARE CORPORATION & LAKEWOOD HIGH SCHOOL CENTER FOR ADVANCED TECHNOLOGIES (ST. PETERSBURG FL)

BAXTER HEALTHCARE CORPORATION / MUNICIPIO DE ANASCO & LUIS MUNOZ MARIN HIGH SCHOOL / RAUL IBARRA HIGH SCHOOL (ANASCO PR)

BAXTER HEALTHCARE CORPORATION / NORTHWESTERN UNIVERSITY & JOHNSBURG HIGH SCHOOL (ROUND LAKE IL)

BEATTY MACHINE AND MANUFACTURING & HAMMOND SCHOOLS (HAMMOND IN)

BOSTON SCIENTIFIC CORPORATION & EDGEWOOD HIGH SCHOOL (SPENCER IN)

BUDD COMPANY, THE & OAKLAND SCIENCE, MATHEMATICS & TECHNOLOGY ACADEMY (OSMTech) (AUBURN HILLS MI)

CHRYSLER CORPORATION & AVONDALE HIGH SCHOOL (AUBURN HILLS MI)

DELCO ELECTRONICS CORPORATION & KOKOMO HIGH SCHOOL (KOKOMO IN)

DELPHI INTERIOR AND LIGHTING SYSTEMS & PONTIAC CENTRAL HIGH SCHOOL (TROY MI)

DOEHLER-JARVIS / EDISON INDUSTRIAL SYSTEMS CENTER & LIBBEY SKILL CENTER (TOLEDO OH)

DRAWFORM, INC. & ZEELAND HIGH SCHOOL (ZEELAND MI)

GENERAL MOTORS PROVING GROUND & MILFORD HIGH SCHOOL / LAKELAND HIGH SCHOOL / HARBOR HIGH SCHOOL (MILFORD MI)

HAWORTH, INC. & HOLLAND HIGH SCHOOL (HOLLAND MI)

HONEYWELL, INC. & ADLAI E. STEVENSON HIGH SCHOOL (LINCOLNSHIRE IL)

HONEYWELL'S MICRO SWITCH DIVISION & FREEPORT HIGH SCHOOL / AQUIN HIGH SCHOOL (FREEPORT IL)

KEMET ELECTRONICS / GREENVILLE TECH COLLEGE & J.L. MANN HIGH SCHOOL (GREENVILLE SC)

LEAR CORPORATION & BRANDON HIGH SCHOOL (ROCHESTER HILLS MI)

LODAN ELECTRONICS / CRAFTSMAN CUSTOM METAL FABRICATORS / MOTOROLA APD & ST. PATRICK'S HIGH SCHOOL (CHICAGO IL)

MARY INSTITUTE AND SAINT LOUIS COUNTRY DAY SCHOOL (MICDS) (ST. LOUIS MO)

METAL FLOW CORPORATION & HOLLAND CHRISTIAN HIGH SCHOOL (HOLLAND MI)

MOTOROLA INC. & CAMELBACK HIGH SCHOOL (PHOENIX AZ)

MOTOROLA, INC. / FLORIDA ATLANTIC UNIVERSITY & DILLARD HIGH SCHOOL / CRYSTAL LAKE MIDDLE SCHOOL / WILLIAM DANDY MIDDLE SCHOOL (PLANTATION FL)

MOTOROLA, INC. & ROLLING MEADOWS HIGH SCHOOL / WHEELING HIGH SCHOOL (SCHAUMBURG IL)

MOTOROLA, INC. & SANTALUCES COMMUNITY HIGH SCHOOL (BOYNTON BEACH FL)

NEW VENTURE GEAR, INC. & HAMTRAMCK HIGH SCHOOL (TROY MI)

OSCAR J. BOLDT CONSTRUCTION / LAWRENCE UNIVERSITY & APPLETON NORTH HIGH SCHOOL (APPLETON WI)

PRINCE & WEST OTTAWA HIGH SCHOOL (HOLLAND MI)

PROCESS CONTROL AUTOMATION & MONTAGUE HIGH SCHOOL (MONTAGUE MI)

PROCTER & GAMBLE COMPANY & WALNUT HILLS HIGH SCHOOL (CINCINNATI OH)

RAYTHEON E-SYSTEMS, INC. & GREENVILLE HIGH SCHOOL (GREENVILLE TX)

SAGE PRODUCTS, INC. & MCHENRY EAST HIGH SCHOOL / MCHENRY WEST HIGH SCHOOL (CRYSTAL LAKE IL)

SCOTT B. PATTERSON, DDS, MS / GREEN COUNTY ENGINEERS & MONROE SENIOR HIGH SCHOOL (MONROE WI)

STRUCTURAL DYNAMICS RESEARCH CORPORATION & GREAT OAKS INSTITUTE OF TECHNOLOGY AND CAREER DEVELOPMENT, LIVE OAKS CAMPUS (MILFORD OH)

TRW AUTOMOTIVE & HARRISON HIGH SCHOOL (FARMINGTON HILLS MI)

VARO, INC. & SOUTH GARLAND HIGH SCHOOL (GARLAND TX)

VENTURE INDUSTRIES / EXIDE BATTERY COMPANY & LAKE ORION HIGH SCHOOL (LAKE ORION MI)

WISNE DESIGN / UNIVERSITY OF DETROIT MERCY & UNIVERSITY OF DETROIT JESUIT HIGH SCHOOL AND ACADEMY (SOUTHFIELD MI)



3-Dimensional Services
(Rochester Mills MI)
Oakland Technical Center,
Northeast Campus (OTC-NE)
(Pontiac MI)

Arach-Na-Bot

"Real winners are ordinary people with extraordinary determination." Oakland Technical Center, Northeast Campus (OTC-NE) and 3-Dimensional Services have come together as "The Scorpions", a robotics team that is headed for the FIRST National Robotics Competition at Epcot in Orlando, Florida. Our team consists of five engineers from 3-Dimensional Services, three engineers from the OTC-NE Advisory Committee, four educators from the OTC-NE staff, the 20 students from the six different high schools in Oakland County combining academic skills from desktop publishing, computer repair and robotics/automation. Our team designed, developed, and built a robotic creation we call the "Arach-Na-Bot". We approached this problem-solving challenge by establishing subteams based on individual strength. These subteams are responsible for body design, mechanical and electrical operation, 3D animation, and publications. Due to **determination, dedication, sincere effort,** skills, and sound **engineering,** our team is confident Arach-Na-Bot will lead us to victory. As we present Arach-Na-Bot in the FIRST Competition, we are going to showcase a robot that surpasses our competition in each and every way.



Baxter Healthcare Corporation
(Round Lake IL)
Northwestern University
(Evanston IL)
Johnsburg High School
(Johnsburg IL)
BIO-BEAST

Motorola Midwest Regional Competition TEAMS 1997

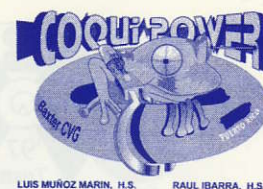


Baxter Healthcare Corporation
(Pinellas Park FL)
Lakewood High School Center
for Advanced Technologies
(St. Petersburg FL)

BAXCAT

What do you do with over 50 excited students ready to get started on the 1997 project? You look for a white knight! After an exhaustive search, a last minute rescue team arrived from Baxter Healthcare Corporation of Tampa Bay! BAXCAT was born! The BAXCAT team combines engineers from Baxter Healthcare Corporation of Tampa Bay and students from the Center for Advanced Technologies at Lakewood High School. Baxter Healthcare Corporation of Tampa Bay enters The Competition for the first time. Their school partner, the CAT team from Lakewood High School, placed second in the 1996 National Competition with another sponsor. **The BAXCAT team has revved up to speed** with the students and the new sponsor, getting to know each other quickly. Over 50 students and 18 engineers participate on the team. BAXCAT teams include: Administration, Operations, Controls, Strategy, Arm, Drive, and Public Relations. The design process has been completely from scratch with a new compartmentalized design process and custom programming. Watch out competitors. **We took second place at nationals last year. We are going for number one.**

The BIO-BEAST team represents a partnership formed by Baxter Healthcare Corporation, Johnsburg High School Skyhawks and Northwestern University Wildcats. The team consisting of 15 Baxter engineers and support staff, 26 students and 10 staff members from Johnsburg, and four Northwestern University engineering students meets several times a week at Johnsburg High School and the Baxter Technology Park facility (both located approximately 60 miles northwest of Chicago). The Bio-hawk team of last year has been strengthened by the addition of the Northwestern crew. **The evolution of the BIO-BEAST from the Bio-hawk is a result of this new and improved alliance. Our objectives for the 1997 FIRST Competition include not only creating a robot, but establishing long lasting relationships between the students, teachers, engineers, and community.** One of our main goals this year is to strengthen our relationship with the community. We are staging a pep rally, an open house and other engagements that the community can participate in to make sure this goal is achieved. We are going to make this year's FIRST experience even more successful and memorable than the last by creating greater excitement and learning opportunities for all.



Baxter Healthcare Corporation
(Anasco PR)
Municipio de Anasco
(Anasco PR)
Luis Munoz Marin High School
(Anasco PR)
Raul Ibarra High School
(Maricao PR)

The COQUI

Baxter CVG PRO team is composed of 19 high school students, six technicians, four engineers and two high school teachers working together as a family. Our mission is to encourage leadership through the active participation in a project of new technology. Though it is small in size, Puerto Rico is known as the heart of the Caribbean. Our robot is a result of long working hours, brainstorming, creativity and innovation. As a way to promote the protection of our living planet, we selected as our logo THE COQUI (Eleutherodactylus coqui). The coquies (amphibian specie unique from our island), are those who add that special feeling to nighttime in Puerto Rico. It is the males, who by calling the females and establishing territory, put us to sleep with their melodious singing and keep visitors intrigued. **Be prepared!** Our loud song will get the competitors out of our territory. We are entering this competition to show the whole world what we are made of. Remember the future lies on the hands of the young people of today, so that's why we must help them in anyway we can, so we can have a better future. **As Abraham Lincoln said, "Always bear in mind that your own resolution to succeed is more important than any one thing."**



Beatty Machine & Manufacturing (Hammond IN)
Clark High School (Whiting IN)
Gavit High School (Hammond IN)
Hammond High School (Hammond IN)
Morton High School (Hammond IN)
Team Hammond

Excited about their second year of participation, Team Hammond, still enjoying the success from The Competition in their novice year, is confident and **ready to "KICK BOT"**. These four city high schools in combination with Beatty Machine & Manufacturing are energized for a "totally tubular" competition at Epcot. Based in Hammond, Indiana, Beatty Machine is a small company with big ideas for this year's contest. Bill Beatty, Sr., company President, along with his son, Bill Beatty, Jr., plant manager, are leading a talented group of their experienced engineers and machinists to make this project a success. Physics/Chemistry teacher from Clark High School, Pete von Werder and the twenty plus students from the four city high schools have invested numerous hours in the brainstorming of project ideas and in the organization of this year's team. **In 1996, Team Hammond, in their first appearance at FIRST, earned the top seed trophy** by going undefeated the preliminary rounds of competition, winning 10th place overall with "BeattyJuice." **In 1997, Team Hammond aspires to surpass last year's success with a little help from "The Robot Formerly Known as BeattyJuice."**

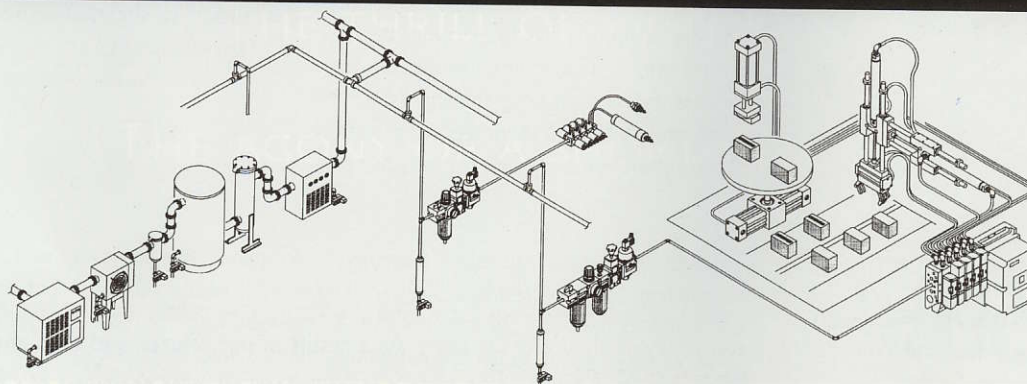


Boston Scientific Corporation (Spencer IN)
Edgewood High School (Ellettsville IN)
The Bostangs

Once upon a time in a little town known as Ellettsville, a group of students from Edgewood High School combines with the Boston Scientific corporation and emerges as the Bostangs. The Bostangs are composed of 12 students, three teachers and 12 engineers. Competing for the first time, we are filled with high hopes and expectations. A glimpse at one of our meetings resembles the enthusiasm seen in a child on Christmas Day as he or she unwraps their first remote control car, model, airplane or a Nintendo 64 Superstation. Despite snow and ice from Mother Nature, accompanied by broken bones due to PE, we continue to meet and form new ideas and dreams for our Bostang. With the combined efforts of students eager to put their minds in motion and engineers ready to guide us along the path, our goal becomes closer and more reachable with each new meeting. **We may be new to this competition, but with determination, teamwork, long hours, and cups filled to the brim with hot chocolate, we are confident that our lean mean fighting machine will devour the competitors, or at least give them a run for their money.**



We make Automation Possible



Engineering Technology Partnership

Congratulations to all participants in
First's 6th Annual
Competition

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 Highland, Michigan
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 fax: (810) 887-9190
 www.numatics.com



Budd Company, The
(Auburn Hills MI)
Oakland, Science, Mathematics
& Technology Academy
(OSMTech) (Clarkson MI)

OSM Budds

- O**ur team consists of 15 OSMTech Students, 22 Budd engineers and 5 coaches & assistants.
- S**tudents come together from 5 different school districts and grades 9 - 12.
- M**any of us have sacrificed jobs, sports, vacations and school activities for FIRST.
- T**he project began with brainstorming and dividing into specialized teams.
- E**ach team then combined at the end of the day for a group discussion.
- C**ompetition among opponent team members (that also attend OSMTech) is never a problem.
- H**owever, battles will be fierce on the playing field. Not only do we have an equal number of boys to girls,
- B**ut we also have a diverse group.
- U**niqueness is the epicenter of our team.
- D**etermination is the heart.
- D**edication and teamwork are the nuts and bolts that will hold us together and keep us coming back!



Chrysler Corporation
(Auburn Hills MI)
Avondale High School
(Auburn Hills MI)

I.M. Force

(Impossible Mission Force)

Twenty four students, five teachers and thirteen Chrysler team members comprise the I.M. Force, the second FIRST team for the Chrysler Corporation and Avondale High School. This year's project started in September 1996 with a few returning students, engineers, and faces and fresh ideas. It was obvious from the beginning that team members were going to "bond" very quickly as a team rapport was developed almost from the first day. Our focus in this our second year went beyond just the robot project, primarily centered

Motorola Midwest Regional Competition TEAMS 1997



Delco Electronics Corporation
(Kokomo IN)
Kokomo High School
(Kokomo IN)
KHS First

Our sixth year in FIRST Competition brings us back to the drawing board asking, "How do we deal with a ball that's not a ball any more?" The core Kokomo-Center/Delco Electronics team of 10 engineers, 6 teachers, and 45 students is ready to face this new challenge. In our local third annual Pop Can Regatta, we challenged ourselves with a similar kind of shake up. Once again, the problem was to build a pop can vessel that floats in a pool while supporting a person who collects balls from the pool surface. Rather than our usual head-to-head battle format, we changed to a timed slalom race format that forced everyone to think a new direction and revitalized our competition. We're looking forward to two specific new adventures this year. **Thanks in good part to our recruiting, we will be one of four Indiana teams in the competition this year, and we're excited to meet our "state mates" in the contest.** We also plan to attend the Chicago Regional competition for the first time, and hope to make the most of this opportunity for practicing and fine-tuning. **Practice makes perfect**, after all. Good luck, and we'll see every-one in Florida.

around spreading the word about FIRST, recruiting new teams, and getting other businesses in our community involved with our team. **As a result of our efforts, and that of our Executive Vice President, Mr. Francois Castaing, over 10 new teams from the Detroit area have joined the FIRST family.** We have many local businesses (restaurants, print shops, etc.) proudly displaying signs stating that they are "Proud Sponsors of the 1997 Chrysler/Avondale/FIRST Team" and our parent team members, who meet every few weeks, are not only greater in number this year, but extremely active in providing assistance (and food) to the team members. The team was represented at a local mall event aimed at highlighting the programs offered at Oakland County's public schools. Also, a few of the student team members who work on the student radio station (which has about a 10 mile broadcast radius), have conducted on-air interviews and made "commercials" about our FIRST team. **Because of our efforts, FIRST is becoming a household name in our school, in our company, and in the Auburn Hills / Oakland County community.**

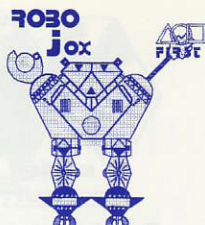


Delphi Interior & Lighting
Systems (Troy MI)
Pontiac Central High School
(Pontiac MI)

Chief Delphi

Top 10 reasons you should get to know our 1997 TEAM:

- #10** If your machine is having troubles, we could always refer it to an alumni, Dr. Jack Kevorkian.
- #9** We're "huked on foniks" (Hooked on Phonics).
- #8** We're about innovative thinking: The Breakfast Club, a Website PCHS-DELPHI.CPM, a class called FIRST, The First Annual Chief Delphi Invitational, and a Rookie Camp for new teams.
- #7** Our corporate sponsors provides interiors and lighting for millions of vehicles each year.
- #6** We have had three Olympic medalists and one Special Olympian who attended Pontiac Central.
- #5** Our CADET program (Children Aspiring to Develop Engineering Talent) reaches out to children in grades 4th - 8th.
- #4** With 36 students, 7 teachers, and over 30 engineers all working together, we are definitely making a difference in our community.
- #3** Although our original Chief is Native American, our team has Euro-American, African American, Asian American and Latin American Chiefs.
- #2** In 1996, we won the Regional and National Rookie All-Star Awards.
And the top reason you should get to know our team....
- #1** We're BAAAAAACKKKKKKK, just like we said. Look for us again in '98!



**Doehler Jarvis Corporation (Toledo OH)
Edison Industrial Systems Center (Toledo OH)
Libbey Skill Center (Toledo OH)**

Robo Jox

Accepting the FIRST challenge for **our inaugural year**, we are 18 energetic, talented, high achieving students from the Manufacturing Engineering Technology Program located at the Libbey Skill Center Program and 12 expert technical professionals from Doehler Jarvis Corporation (Die Casting) and Edison Industrial Systems Center (Technology Transfer Group) with added assistance from Toledo Molding and Die. In October, we began pre-season conditioning skill drills (speed, power, maneuverability). In December, we joined with students from other schools to participate in the Chief Delphi Invitational Tournament, where to our delight we were awarded the Team Spirit Award. After the Kick-Off, we formed sub-units to prepare for the animation, game and Chairman's Award competitions. As weeks passed **we learned first hand the meaning of team work, celebrating together our breakthroughs and enduring together our set-backs**. We look forward to the FIRST Competitions with respect and best wishes to all the FIRST teams.



**Drawform (Zeeland MI)
Zeeland High School (Zeeland MI)
The Drawform-Zeeland Chix**

For the second year running, Drawform has teamed up with Zeeland High School students to **tackle and conquer the FIRST challenge**. Their identification of the team mascot as the "Tube Hawg" sums up their vision of the upcoming competition. The All-Terrain-Tube-Transport team, better known as AT³, is comprised of 12 Drawform engineers and over 25 students. The mission of these 37 people is certain to be due to the structure and approach of the team, not to mention the brilliance of the invention of their brainchild, the telescoping ladder. The consideration and combination of both offensive and defensive strategies is one of the team's central focuses. **Ritual and intense brainstorming session as well as everyone's willingness to compromise make the "Hawg" a truly personal project for everyone involved.** We came up with a wonderful design which was a combination of everyone's ideas and working together helped everyone open up to each other. **Our robot is a winner simply because we believe in ourselves.**

Dedication, Innovation, Determination, Perseverance, The Thrill of Competition...

Let the Games Begin!

Emerson Electric Co. is a proud supplier and sponsor of the **1997 FIRST Competition.**



Emerson is the industry leader in the advanced development and manufacturing of electric motors. Our fractional motors are found in appliances throughout the home; our subfractional motors are used in technology based machinery; our integral AC and DC motors are used in agricultural and industrial applications throughout the world.



**General Motors Proving
Ground (Milford MI)
Milford High School
(Highland MI)
Lakeland High School
(White Lake MI)
Harbor High School
(Highland MI)
H₂O
(Hyper Hex
Offender Team)**

Our team includes 30 engineers, technicians, administrators, managers, computer professionals, and other career specialists from General Motors, as well as 79 students and three faculty members representing the Huron Valley high schools listed above. **This diverse combination of enthusiastic and dedicated talent is not only unique, but will prove a force to be reckon with, even in this our rookie year.** As other teams, we are "under the gun" to come up with a working and winning robot within the six weeks allotted. We conducted brainstorming sessions to get all our ideas on the table. The students provided fresh ideas that the engineers and technical professionals used in working their magic. The students and GM professionals divided into separate engineering teams. Each of the four teams had a sub-assembly of the robot to design and build. Another team developed our logo and animation entry. Other teams specialized in building the practice playing field and performing the various administrative functions vital to coordinating the complete project. **This combined effort produced a robot and animation entry we believe will be strong contenders, and positively demonstrated through teamwork how engineering can be challenging and fun.**

Motorola Midwest Regional Competition TEAMS 1997



**Honeywell, Inc.
(Mt. Prospect IL)
Adlai E. Stevenson High School
(Lincolnshire IL)**

Participating in the FIRST Robotics Competition for the first time has been an exciting experience for the 45 students, one teacher, two assisting Honeywell engineers, and students' parents. We had a lot of people, so we split into groups: Strategy, Publicity, Controls, Construction (groups within) and Building of the Playing Field. Working with Honeywell, our sponsor, we evaluated **a myriad of ideas.** After reaching a basic design, construction began. Dedicated students spent many hours outside of class in the planning and construction of our robot. This project has taught the participants to work together as a unified team. **Working through frustration and pressure, our team will be able to successfully complete a working robot for the competition.** The participants are very excited and are eager with anticipation in our debut year.

P.E.S.T.



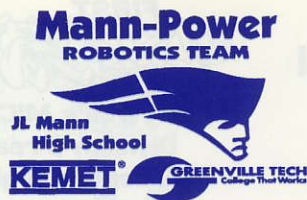
**Haworth, Inc. (Holland MI)
Holland High School (Holland MI)
P.E.S.T.
(Pulling Engineers and
Students Together)**

This is the third year Haworth and Holland High have teamed up to compete in the FIRST Competition. This year on our team, we are proud to have 25 great students, 3 wonderful teachers, 8 outstanding engineers, 2 of the best marketing specialists, and 4 superb model makers. Our Marketing, Fund raising, Chairman's Award, and Animation teams started very early this year. We found this very useful. The Engineering team started the day we got the kit and have been going **full speed** ever since. New for us this year will be competing in a regional. We look forward to it! **The Competition this year with the inner tubes is devious, diabolical, and difficult, but we plan to win!** See ya'll in Florida.



**Honeywell's MICRO SWITCH
Division (Freeport IL)
Freeport High School
(Freeport IL)
Aquin High School
(Freeport IL)
Pretzelator III**

After our great success last year it was time to expand our program and let others in on the excitement! This was accomplished two ways: First, another school, Aquin High School, became part of Freeport's FIRST team. The new students and teachers from Aquin entered the program in the fall and have become enthusiastic partners. Second, changes were made to an existing local program which partners engineers from a corporate sponsor with middle and junior high school students. This program, TEAMS (Together, Education and MICRO SWITCH), was modified to more closely resemble the FIRST Competition and team structure. Also FIRST student members now actively participate in recruiting younger students into the TEAMS program. As a result, **we have in place a feeder program which provides hands-on problem-solving experience for soon-to-be FIRST team members.** This year's FIRST team is the largest ever, numbering 69 students and 15 advisors. We divided into six sub-teams with specific areas of responsibility, but we strive to be cross-functional by actively seeking input from all team members. Everyone is a resource. All teams have been active since September focused on a variety of training, publicity and fundraising activities. But when it's time to compete, **a common goal unites all Team members - WIN!** You will see us at both the Midwest Regional and the National at Epcot. **Stay on the lookout for Pretzelator III: "The Bulldog".**



**KEMET Electronics (Greenville SC)
Greenville Technical College (Greenville SC)
JL Mann High School (Greenville SC)**

"Mann Power" Robotics Team

This young, rookie team is a bright, ambitious team whose goal is to provide a unique opportunity for the students, engineers, and teachers who have dedicated many tireless hours to designing and building a world class robot.

We are excited to be the only team from South Carolina participating in The Competition! We're also excited to be able to work with the newest appointed magnet school in Greenville. JL Mann will become the Academy for Math, Science and Technology in the Fall of 1997. Our involvement in FIRST will certainly bring credibility to the opportunities that will be available to the students at the Academy. The idea sharing between our team of ten students, three engineers, two teachers and two administrative support has been one of our strengths. Our "gripper" design, in our opinion, will set us apart from the rest of the competition. The talented students and engineers have provided us with computer, drawing, mechanical and electrical experts. **Other unique qualities about our team include the diversity of students, the unbelievable determination and commitment from the engineers, and the closeness that has developed between the three organizations that have aspired to come up with a unique, strategic winning design** that will make KEMET, Greenville Tech, JL Mann and South Carolina Proud!



**Lear Corporation (Rochester Hills MI)
Brandon High School (Ortonville MI)**

LearHawks

Through the first time efforts of Lear Corporation, Brandon High School has the opportunity to participate in the FIRST Competition for their second year. Our team goal is to involve businesses, education and local communities in sharing our enthusiasm for science and technology. The team consists of 13 high school students, one middle school student, two high school teachers, three parents and 28 employees from Lear Corporation. Last year's experiences provided the team with valuable information and **the LearHawks are ready to capture the title in 1997.** In pursuit of that goal, we immediately divided into six groups to focus our efforts on designing, building, computer animation, rules, weights and measures, marketing and travel and the Chairman's Award. The team works after school and on weekends for a minimum of 12 hours per week, with most of the work taking place at the Lear Corporation facilities. Our team is dedicated to working together in the true meaning of team spirit. **We have combined the best of talent, skill and ingenuity to create the winning robot and develop dazzling offensive and defensive strategies.** We fully expect to live up to **our motto** and when the competition is over, the LearHawks will be saying: **"We came, We saw, We conquered."**



To success, the future, and **Team Greenville**

The future stretches before us, and the possibilities are endless.

At Raytheon E-Systems, we seize the future and make it our own. We take dreams and make them realities.

The future—the best and the brightest in math and science—is here. We want to recognize the determination and the inspiration not only in the outstanding students from Team Greenville, but from all the teams competing at the FIRST competition.

May your thoughts be driven, may your dreams take flight, and may you grab on to all the possibilities that await you.

Raytheon E-Systems

Greenville



LoDan Electronics, Inc.
(Arlington Heights IL)
Craftsman Custom Metal
Fabricators (Schiller Park IL)
Motorola, Inc. (APD)
(Arlington Heights IL)
St. Patrick's High School
(Chicago IL)

STRIKER

STRIKER (St. Pat's Tactical Retrieval Interfaced Kombat Engaging Robot) is the product of hard work and dedication. The Team is composed of 30 students and three teachers from St. Patrick's High School in Chicago, Illinois, as well as engineers and resource members from our sponsoring companies: LoDan Electronics, Inc.; Craftsman Metal Fabricators; and Motorola, Inc. (Advanced Products Division). These world-class resources have provided the knowledge and expertise needed to compose this project. The first step in creating STRIKER was to strategize. We produced numerous models and tested them to provide **a combination of offense and defense strategies.** STRIKER is unique because it encompasses different backgrounds and experiences of all Team members. The inner tubes that STRIKER will place on the central goals are protected from being knocked over by a clamp system. STRIKER is also capable of attaching itself onto the platform to prevent the intervention of the other robots. **Building STRIKER proved to be a great learning and team building experience for all of us. STRIKER is NOW ready to challenge the competition and WIN!**

Motorola Midwest Regional Competition TEAMS 1997

DESERT WARRIOR



Motorola, Inc. (Tempe AZ)
Camelback High School
(Phoenix AZ)
Spartan I

Camelback High School is one of two schools in the Phoenix area to enter this year's competition. This is our **first year** and we are very excited to be participating. Due to the fact that we were a last minute entry, we really had to work hard to get organized. Our team has 30 students, 4 teachers, and 20 professional engineers. Motorola, our sponsor, has been very supportive. The engineers explain the construction process to students and encourage them to ask questions. We are building the robot in our school shop facilities. This gives everyone in the school the chance to see what we're doing. Our robot is in the early stages of construction and we think we're on the right track. **Everyone is totally committed to making "Spartan I" a success.** Our "Desert Warrior" team is looking to the Regional and National competitions and the opportunity to meet other teams from across the country.



Motorola, RPG (Plantation FL)
Florida Atlantic University
(Plantation FL)
Dillard High School
(Ft. Lauderdale)
Crystal Lake Middle School
(Plantation FL)
William Dandy Middle School
(Plantation FL)
SigmaC@T

Don't count on your experiences in Biology I, because dissecting this "CAT" will not help you to understand the team's unique synergy of experience, creativity and knowledge. SigmaC@T's vital organs include two middle schools, as well as the veteran high school, corporation and university who have collaborated in FIRST Competitions of 1995 & 1996. **Sigma C@T's components are a living network of 125 unique human resources** from Motorola, Dillard High School, Florida Atlantic University, and our rookie partners: Wm. Dandy and Crystal Lake Middle Schools. Just as the high school team members are trained and mentored by corporate engineers and coached by university staff, these same high school students are training, mentoring and coaching the middle school team members to keep the FIRST spirit alive and growing. The **ninety-two students received corporate training in team-building, project management and statistical process control** to prepare them for the pressures of their individual and group deadlines as Regionals and Finals approached. Subgroups developed communications strategies to contact and update all participants as designs and strategies evolved. **Team members from all organizations planned together, trained together, and devoted evening and week-end hours to the development of each other's strengths, with the quest for perfection as the unifying goal.**

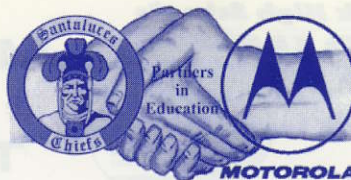
**Metal Flow Corporation
(Holland MI)
Holland Christian High School (Holland MI)
Tubinator XL**

On December 1, 1996 we first heard about a robotics competition involving partnerships between schools and businesses. The persuasive abilities of FIRST's emissary in West Michigan convinced Metal Flow to partner with Holland Christian for the 1997 Competition. We are proud to be part of the substantial representation from West Michigan in this event. Our excitement level was high and matched only by our fear of **"what in the world did we get ourselves into?"** In the weeks preceding the kickoff we waited anxiously to learn what would be involved. We established teams for public relations, strategy, design, and building we felt ready! Little did we realize that the reality of accomplishing all of these tasks in six weeks was much greater than we had anticipated. A group of 17 students, three engineers, two toolmakers and **many supporting cast members have worked feverishly to make our first endeavor in FIRST a successful one.** For both the students and adults it has been refreshing to see the enthusiasm and commitment to completing this task. By itself this makes the Metal Flow/Holland Christian team a winner.



Motorola, Inc. (Schaumburg IL)
Rolling Meadows High School
(Rolling Meadows IL)
Wheeling High School (Wheeling IL)
WILDSTANG

Students from Rolling Meadows High School and Wheeling High School in Northwest Illinois have put aside inter-school rivalries and competition, creating the WildStang Team. 25 volunteers from all areas within Motorola are supporting a strong contingent of 76 Students and 10 Faculty Members. The Motorolans try to make the project fun and exciting, while also providing the students with an unique learning experience. The Motorola volunteers have been assisting with engineering classes since August, teaching students the basics of electronic and mechanical technologies. Armed with this knowledge, the Students approached the initial project design by developing three prototypes in parallel. Following evaluation, key elements from each design were chosen to create **the optimal robot** which matched the Students' strategy. Our team is structured like a "mini-business", providing Students the opportunity to participate in Human Resources, Marketing, Finance, and Program Management Sub-teams, in addition to completing their engineering tasks. **Achieving project goals and meeting deadlines are dependent upon everyone's ability to work together as one cohesive organization.** Students and Motorola volunteers alike are establishing new friendships, having fun, **but most importantly, learning and growing.** Best of luck to all in the competition!



Motorola (Boynton Beach FL)
Santaluces Community High School
(Lantana FL)
S.A.M.E.T.S.

Santaluces Community High School and Motorola-North America Subscriber Paging Division (NASPD) have joined forces to share resources, learn from one another, and compete in the FIRST Competition. The team name is S.A.M.E.T.S. (Santaluces and Motorola Engineering Team). The robot's name is Robo Chief. The team is unique in the following ways: At the Motorola NASPD site, compressed cycle times and cross-functional teams are common. **Students will be given security clearance so they can meet with their engineering teammates at the Motorola facility to learn more about the world of engineering.** In Florida, Motorola and Santaluces Community High School have been partners in education for many years. The uniqueness of our robot has come from our team's brainstorming. We have envisioned **a robot design that should be simple, yet fast and highly maneuverable.** Our strategy is to have highly trained operators that can score as many points as possible and also go instantly on the defensive whenever necessary. The team is comprised of approximately ten students, six Automation Engineers, and one teacher.

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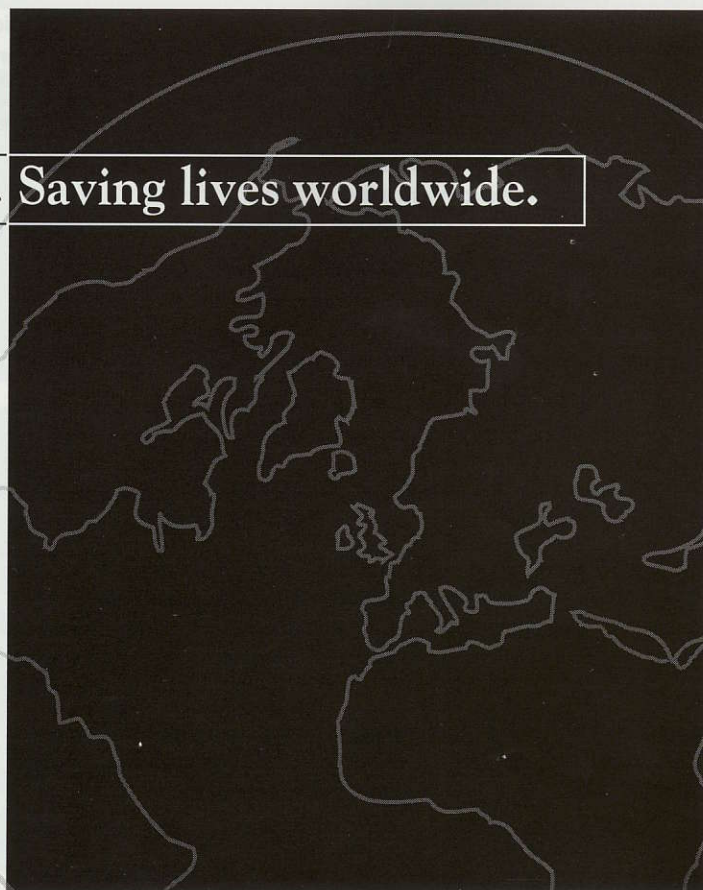
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Baxter International Inc. applauds the innovation, technological excellence and teamwork of all FIRST participants.

Baxter





New Venture Gear, Inc.
(Troy MI)
Hamtramck High School
(Hamtramck MI)
Cosmo Force

New Venture Gear, Inc. and Hamtramck High joined together as rookie competitors for the 1997 FIRST Competition. Our team consists of 32 students, 6 high school faculty and 46 NVG employees. We came to the competition with unique characteristics. NVG is a joint venture between Chrysler Corporation and General Motors. **Hamtramck High School students have a multitude of ethnicity with 29 different languages and dialects between them!** We decided to use **our diversity and uniqueness to our advantage**, especially during our brainstorming sessions. When we first received the kit, we were a bit overwhelmed at the task at hand. But we quickly collaborated ideas, and then divided into sub-teams to get ourselves organized and develop our winning attitude. Some of the sub-teams included the strategy team, engineering/design team, construction team, finance/fund raiser team, media/community support team and finally the celebration team (after we return to Michigan for a job well done). Dedication was shown by all team members by the many hours and extra efforts put in beyond the usual work and school days. However, **through all the hard work we have become even more inspired. We have high hopes to win, but feel we have already won because of the learning, fun, and friendships that have developed due to the opportunity to participate in the FIRST experience.** We are very proud of our team!

Motorola Midwest Regional Competition TEAMS 1997



Prince Corporation (Holland MI)
West Ottawa High School
(Holland MI)
The Panther

Our mission is to provide a positive and educational experience for all involved, and to design and build a competitive robot, utilizing Prince resources and knowledge to that end. Consisting of 32 students, a faculty advisor, and Prince teammates representing various disciplines, the Panther team began meeting in late December to begin the team-building process. Brainstorming, bench marking, and prototyping quickly became the norm as **we powered through the design and build process.** Our robot promises to **combine the best strategies and technologies of the last three competitions, utilizing the talents of the entire panther team.** We are confident we will meet the objectives of our mission statement. Go Panthers!



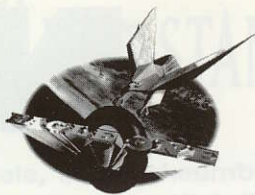
Process Control Automation
(Montague MI)
Montague High School
(Montague MI)
Montague RoboCats

The RoboCats are one of the many **newcomers to FIRST** this year. Though we come from a small town, a small school and a small company, we are big on team spirit and technical expertise. **We plan on making a big splash** onto the national scene this year. The RoboCat team is made up of twenty students and seven engineers. The students are from Montague High School, a school of about five hundred students that is known for its state-of-the-art Technology Department. The engineers are from PCA, Inc. a subsidiary of CMI International. We operate as three dedicated teams: Design, Construction, and Communications. The Design team has come up with **a robot that has not one, but two separate systems for picking up the inner tubes.** The Construction team has worked hard to build the robot and arena quickly leaving plenty of time to practice and perfect our strategy. The Communications team has put out a weekly newsletter, along with writing press releases and other documentation. **Even though we work as three dedicated groups, the RoboCats are a unified team,** as shown by our student-written mission statement that we begin every practice by reading.



Oscar J. Boldt Construction
Co. (Appleton WI)
Lawrence University
(Appleton WI)
Appleton North High School
(Appleton WI)

Appleton North High School, Lawrence University and Oscar J. Boldt Construction Co., located in Appleton, Wisconsin, have joined forces to build a winning team for the FIRST Competition. The 48-member inaugural team's goal is to not only build a winning robot, but to build a lasting community relationship between education and business sectors. Three business professionals, two educators, six university students, and 37 high school students will **push the competitive envelope in their first ever Competition entry.** This **quality-centered team** is committed to mentoring both up and down the spectrum of knowledge and experience, allowing the youths and adults to fully explore and share their knowledge and abilities with encouragement and direction from each other. Through **commitment, enthusiasm, humor, the yearning for victory and yes, frustration** on the part of all team members, we are building something far more significant than a winning robot. **We are building a friendship and a team that will go forward in life knowing that we have left a positive mark on the life of another.** A team that will cherish the memories of this learning experience unlike any other.



**Procter & Gamble Company (Cincinnati OH)
Walnut Hills High School
(Cincinnati OH)**

EAGLE ONE

After Walnut Hills High School/Procter & Gamble won **the National Championship (1994)** and the **Chairman's Award and Autodesk Animation Award (1996)**, this year's 24 new students decided to fashion design our team into fun, fantasy and a fabulous robot building machine. (But the 30 engineers and five teachers can just call us fantastic!) During October, we spent five weeks making various gadgets out of ordinary household objects. Who knew pipe cleaners could hold water?? Dedication and creativity separated the best from the rest, giving us the 1997 FIRST team. We divided into the Chairman's Award sub-team and the CAD Animation sub-team, according to our interests. Students from both teams became intimate with 90's technology in the eight weeks to follow. **Well prepared by the Kick Off, we thought of modeling the robot after everything from a can-opener to a hair dryer.** The craziest ideas lent themselves to the best solutions. After we presented a multitude of ideas, elimination came down (smile everyone we're going to Disney World). It was a joyous occasion seeing our ideas meshed and merged and married into one. **It is our robot, our eagle; our Eagle One.**



**Raytheon E-Systems, Inc. (Greenville TX)
Greenville High School (Greenville TX)**

Monthly meetings began in August to form the partnership between Raytheon/E-Systems and Greenville High. Our first goal was to introduce FIRST to the community and our parent group. **Twenty-five students, ten engineers, and a support cast of 100 community sponsors have made sending a team to a regional and a national competition a top priority.** Half our students and engineers are new to the FIRST program, which makes team dynamics and communication all the more important between the 'rookies' and our all-stars. **Raytheon/E-Systems takes the growth of young engineers seriously, as a previous student team member is now an intern with Raytheon/E-Systems.** Prototyping our machine with erector sets has given our team a new 'lift' this year. With scale machines to serve as brainstorming models, we saw our ideas take form. Raytheon/E-Systems built the control systems for Competition 1997. Students and engineers, teamed with other volunteer employees, cruised through this tedious task. Raytheon not only gave us engineers who donated their time to complete the machine, but also gave engineers to teach us the CAD and Autodesk programs. **Through the knowledge and friendships gained from this program, no matter what happens at competition, we will already have come out ahead.**



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Sage Products
(Crystal Lake, IL)
McHenry High School
(McHenry, IL)
SIEGE ENGINE

This is **our rookie year** in the FIRST Competition. Our joint campuses in McHenry, Illinois have combined with Sage Products Inc., a leading manufacturer of medical devices to build our robot. We have a team of 28 students along with a 16 member supervising staff of teachers, engineers, professionals, volunteers, and miscellaneous sponsors. Our team has been working in 6 groups that include: propulsion, controls, handling of objects, logos and publicity, materials management, and facility planning. **We hope to win with a combination of speed, simplicity, and positive intuition.** With a new goal to accomplish, we feel we can compete on an equal basis with the veteran teams. We are excited to be a part of the FIRST Competition this year. **We believe that this will be an enjoyable learning experience that will enable us to better meet the challenges of the 21st century.**



St. Louis Community
(St. Louis MO)
Mary Institute & St. Louis
Country Day School (MICDS)
(St. Louis MO)
Mighty Mississippi
River Roboteers

Greetings from the Mighty Mississippi River Roboteers. With nearly 60 students hoping to explore engineering possibilities, we have rafted though our region snagging university engineering students and engineering firms to **share thrills with us**, and challenging corporations who want to have an impact on the young people in their community. Our experienced flumers and tubers are joined by four dedicated aerospace engineers volunteering their skills, some extended family members who are **pumping up the adventure**, and a grandfather who is coming out of retirement to add ballast to the team. **Teams may get splattered while watching our spray as we ROBO-RAFT to the FIRST Tower of Tubes.**

Motorola **Midwest Regional** **Competition** **TEAMS 1997**

Scott B. Patterson, DDS, MS
(Monroe WI)
Green County Engineers
(Monroe WI)
Monroe High School
(Monroe WI)

The Cheddarheads
The Cheddarheads developed as a result of a demonstration in Monroe High School by the Freeport, Illinois FIRST team. We are a **rookie team** consisting of ten awesome students from two rural communities located in one of Wisconsin's dominant cheese-producing counties. The leading industries employ no more than a few engineers each, but we've been fortunate to recruit six engineers and three machinists to support our efforts in several ways. With only two engineers employed in the same location, its been a challenge to coordinate design ideas to develop a single, united plan. On the other hand, we've definitely benefited from a variety of engineering backgrounds and areas of specialization. Key features of the robot reflect ideas brainstormed by our students and refined by our engineers. For example, **our method of using pneumatic pressure to maximize traction was inspired by a team member but required the expertise of our key professionals to become a reality.** Our group is organized as an Explorer Team, the coeducational career- exploration division of the Boy Scouts of America for high school students. This facilitates our operating as a school club in two schools simultaneously, each with its own teacher as club advisor.

This super team was conceived in mid November, 1996, born on January 9, 1997 at 5 p.m., and named Robo Hawk. Boy what a birth! The team has 57 members consisting of 27 TRW engineers, eight high school faculty members, and 22 high school students ranging from freshmen to seniors. Following a brief introduction of who we are, we broke into groups for team building exercises. It took only three exercises for us to bond together like a family. At the next session each person was asked to choose which of the four development sections (public relations, animation, electronics, or mechanical) they wanted to be a part of. Once the sections were formed, brainstorming sessions began. Out of these sessions came the ideas for five manually operated robots which were created and brought to the next meeting. The mechanical team evaluated each model, and one was selected to be mocked up. Again, brainstorming sessions were used to refine the design. **This competition is helping students to better understand the value of meeting scheduled dates and working as a team.** The relationship between the individual sections has led to a real camaraderie. If someone needs help, they just have to ask, and someone from one of the other sections responds. **This is our first year to compete in The Competition, and we are confident that we will return home winners regardless of the outcome.**



Structural Dynamics Research
Corporation (Milford OH)
Great Oaks Institute of
Technology and Career
Development (Milford OH)
Interdimensional
Destroyers

The Interdimensional Destroyers is a team of 15 Great Oaks vocational students, two SDRC engineers, one SDRC technical writer, SDRC university co-op students, and 10 faculty/staff from the Live Oaks Campus. We come from many different vocational areas which adds uniqueness to our team. Due to the diversity of backgrounds, as we approach the project, we have many new and varied ideas as to how to place the inner tubes on the goal. We all pull together when needed, help where needed, and always remember that we are a team. **We believe that "one dimension is never enough" so our robot is both offensive and defensive.** Our team leader is devious which leads to **a strategy for winning that is diabolical and sure to frustrate our competition.**



TRW (Farmington Hills MI)
Harrison High School
(Farmington Hills MI)
Robo Hawk



Varo, Inc. (Garland TX)
South Garland High School (Garland TX)
COLONELS

With 39 days to go before shipping a finished robot, Varo and South Garland High School teamed in their inaugural year of FIRST Competition. There are 18 science students, three science teachers, four parents, and 17 engineers and employees form all facets of Varo's business. **Varo embraces the TQM concept in its business practices and the Colonel team is also using this technique.** We began by brainstorming during a general meeting for the team name (**Colonels**), team colors, team hat and **the robot's name (General Lee).** The team continued to brainstorm on the fundamental form and requirements of the robot, and the basic offensive and defensive strategies to be used. The group broke into subgroups to begin designing and bring General Lee to life. Amid pizza and subs, **the students are learning many aspects of the business/engineering world they would not learn through classwork.** The adults and students are enjoying being partners in this worthwhile endeavor and look forward to challenging the other teams and robots in this competition.



Venture Industries (Lake Orion MI)
Exide Battery Company (Lake Orion MI)
Lake Orion High School (Lake Orion MI)

Lake Orion Dragons

If you want to know how the Lake Orion Dragons won a national championship and set a world's record in Electrathon car racing just ask them...but **be advised, their story is an incredible one!** Nearly every part of the winning vehicle was designed, fabricated and tested in the school's technology lab by a diverse and dedicated team of students working in partnership with industry. The process was complex and challenging; but it is this hands-on approach to learning that made every team member a winner; because they themselves made the principles of technology 'work' in the real world. Now, together with Venture Industries and Dragon team alumni from Oakland University and General Motors Institute, as well as with interested parents and community members (a working resource network of close to 100), **Lake Orion's FIRST team proudly presents "The Pick" a robot so named not only for the way it accomplishes the task required of it, but because the Dragons believe it is the pick of the litter in terms of technical innovation, efficiency, and simplicity of design.** Like Lake Orion's award winning cars, the robot was constructed almost entirely by the students, making it a learning experience of which to be proud!

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Wisne Design (Southfield MI)
University of Detroit Mercy
 (Dearborn MI)
University of Detroit Jesuit
High School and Academy
 (Detroit MI)

CUBoom

The **CUBoom team** is preparing for its first **Competition** and is excited about challenging other experienced teams. The team, comprised of students and faculty from both University of Detroit Jesuit High School and University of Detroit Mercy, shares more than a common name. We have assembled **a machine with remarkable capabilities**. Working two nights a week and long hours on Saturdays, we experimented with pneumatic capabilities, drive trains, CAD-CAM modeling, and motor outputs before we implemented a final design. Guided by our engineering advisor from Wisne Design, **the robot utilizes the strengths of the available components while building on the winning strategies of our students.**

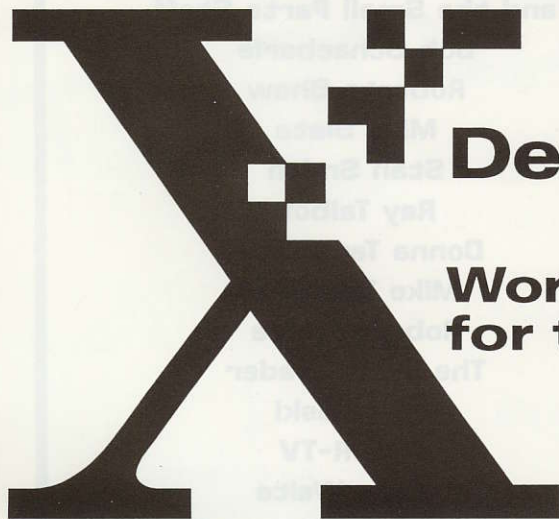
Motorola thanks the following individuals for their dedication to making the Motorola Midwest Regional Competition a success

Henry Artalejo
 Faye Bergemann
 Steve Biedermann
 Rusty Brashear
 Margot Brown
 Dave Carlson
 Pam Cox
 Darcy Davidsmeyer
 Mike Doheny
 Merle Gilmore

Kim Gore
 Karen Jones
 Evelyn Laxgang
 Chris McClure
 Lynn Monica
 Bruce A. Mueller
 Bruce D. Mueller
 Lois Roth
 Larry Shockley
 Gary Tooker
 Eileen Wells



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 for the promise of tomorrow**

..."In my view, all of you who are participating, whether you are students, teachers or the support from the other organizations, universities and corporations, you're really all winners just for being here, and just for participating."

Paul A. Allaire
 Chairman and CEO, Xerox Corporation

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