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EUROBOT – EUROPEAN ROBOTICS COMPETITION

Robot Rugby

A pan- European competition involving high-tech electronics, scientific problem solving, inspirational team work, red foam coconuts and lots and lots of fun and excitement – what could be more appropriate for Science Week? Eurobot is the European Cup for Robotics and is growing in popularity and scope year on year. Teams of students from across Europe and beyond compete head-to-head to see who is the champion robot-builder!

In its seventh year of competition, Eurobot 2004 has seen teams from twenty countries involving more than 3000 young people entering and competing. Nine public events – eight national qualifying events and the grand final – attracted more than 90 000 enthusiastic supporters and millions more were able to follow the progress of their favourite team via television reports on channels across the continent.

Eurobot grew out of the French Robotics Cup that was established in 1994 by audiovisual company VM Group and scientific association Planet Sciences. This became Eurobot in 1998 together with La Férte-Bernard – the French town that has hosted the supreme final as part of its annual ARTEC festival every year so far. “Our original inspiration was the robotics competitions first staged nearly 40 years ago by Woodie Flowers at Massachusetts Institute of Technology,” explains Veronique Raoul of VM Group.

Autonomous challenge

This year’s international final took place in May in La Férte-Bernard and the challenge for the teams was to devise and build autonomous robots to play and win ‘Coconut Rugby’ (see the box below for the rules) on a tropical island. “Each year we elaborate a new game for the teams – this keeps the competition fresh and competitive – and the robots must be real robots – autonomous – no radio control is allowed. When the game starts the robots are on their own,” says Veronique.

Interaction is encouraged between competitors via the internet and during the eight qualifying rounds, and of course, during the four-day final meeting. The excitement generated by the competition is tremendous and talking to the competitors at the award ceremony that took place in Brussels, Belgium during Science Week 2004 it was clear that their enthusiasm was infectious.

At the awards ceremony, opened by MEP and former EU Research Commissioner Philippe Busquin, the winning Supaero team from Toulouse in France played demonstration games with runners-up Team ID from Lausanne in Switzerland, winners of the team prize SIRAEL from Charles University in Prague, Czech Republic, the winner of the best concept prize RCAachen from Germany and another Swiss side – HESSO-EVID who were awarded the Fairplay prize.

Sponsorship and skill

Most of the teams build their robots in their 'spare time' and the majority are sponsored indirectly or directly by their school or local business. Technical approaches to solving the challenge are as varied as the number of teams taking part, but all agree on why they participate: it is a real scientific challenge and its fun. The fact that the robots are autonomous and therefore "intelligent" is also a major factor for most of the teams. To quote the EPFL team: "We met a lot of cool people, had some great parties and we learnt more about robot science!"

Building a winning robot takes time – in the case of the champions Supaero about nine months hard work by the 20-person team at weekends and in the evenings after school. For some of the teams the robot building has been integrated into their teaching programme, but for most teams it is classed as extra-curricula activity, although its practical value for students is recognized.

International competition

Next year the Eurobot final will be staged at Yverdon-les-Bains in Switzerland on 19 – 22nd May. This is the first time it has been organised outside France and a sign of the competition's increasing international reputation and success. "It is very exciting to be moving outside France," says Veronique. "We expect 300 teams to compete in 2005 and will be welcoming teams from Bulgaria, Greece and Romania for the first time."

The challenge for 2005 is based on bowling; a problem that is already perplexing this year's winning teams. But it is not too late to get involved – take a look at the 2005 rules (see link below) and start thinking how to build your 'bowling 'bot' now!

Box1

[Coconut Rugby]

This year's competition was based on the concept of the robots gathering on a tropical island to play "Coconut Rugby". The full rules of this game covered 15 pages that scope out the complete parameters of the game and the robot competitors. The two teams compete to accumulate points by scoring tries or drop goals. Essentially the robots must collect red foam coconuts that are either laid out on the playing surface or drop from two palm trees situated randomly on the island 'grid' and manoeuvre past their opposing team to score. The games are 90 seconds long. The position of the trees and the initial position of the other balls are decided by the referee before each match. Each team had to construct a main robot that can recognise, collect and deliver the balls into the opposition goal whilst avoiding obstacles and the opposing robots. Teams could also construct an optional secondary robot to play in defence and they needed to produce beacon devices to be placed at eight locations around the pitch to navigation aids for their robots.

ENDBox1

More information on the Eurobot project

Eurobot is a high level robotics competition in which totally autonomous robots face a novel sports challenge. The competition is aimed at students from engineering schools and universities as well as enthusiasts from science clubs who use their scientific and technological skills to determine that best possible strategy to make a 'winning' robot. The challenge is different every year making it open to newcomers as well as motivating 'old hands'. Eurobot is a cultural as well as a scientific event with live commentated matches and extensive media coverage.

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The rules for the 2005 competition can be found at: http://www.planete-sciences.org/robot/concours/eurobot/rules/rules_en.html

IMAGES 1 (NAME OF PICTURE FILE)

1stPrize.bmp	The French Supaero team pick up the Eurobot 2004 Cup
EPFL+Robot.bmp	Team-ID from Switzerland with their second-placed robot and prize
French_Czech.bmp	French and Czech competitors swap notes