

The EUROBY 2008

(Linz, 05 June 2008) This year's European Robot Football Cup will be held in Linz from 15-22 June 2008. Just like the "real" European Cup, the matches will be played in Switzerland and Austria. The ten competing teams will play in Zurich from 15-17 June, and in Linz from 19-22 June. Parallel to the robot soccer games, Linz will also be hosting the International Conference on Computational Intelligence, Robotics and Autonomous Systems (CIRAS). The robotics festival includes an interesting programme for the general public, with robotic performances, various workshops, and panel discussions. Further information on EUROBY 2008 at www.euroby2008.at.

Speakers

Prof. h.c. Peter Kopacek (Intelligent Handling Devices and Robot Technology, Vienna Technical University)
Prof. Walter Rokitansky (Wels University of Applied Science)
Wolfgang Holzer, graduate engineer (Director, Leonding Technical College)
Josef Mundigler, graduate engineer (Leonding Technical College)
Christian Eder, graduate engineer (Stadtwerkstatt Linz)
Markus Wintersberger, M.A. (IT & Media Department, St. Pölten Technical College GmbH)
Martin Honzik (Ars Electronica Linz)



European Robot Soccer Summit

Ten teams from nine countries will gather in Linz on 19 June 2008. By that time, they will already have warmed up in the two-day preliminary round organised by the University of Zurich Intelligence Laboratory from 15-17 June. After the proverbial "Iull before the storm", from 18 June things will start hotting up in the battle for the European trophy. First come the group qualifying matches for the final round, played daily from 10:00 to 18:30. The best teams will then play each other in the final on 22 June. The new European robot soccer champions will finally receive the coveted trophy in the victory ceremony at around 18:00. Ten teams will compete in EUROBY 2008:





Five Leagues

Unlike the attractions of some flesh and blood soccer heroes, the appeal of remotecontrol robot footballers operated by PCs has more to do with capabilities than looks. The main idea is to deploy their talents to the full as soon as the start whistle blows and the team computer takes control. A camera sends data to the computer on the current position of all the robots on the pitch 120 times a second. The computer analyses the data and makes snap decisions on its robot players' next moves. The computers' orders are transmitted by radio.

Five leagues, each with different size and weight requirements for the cube-shaped robot kickers, and for the pitch dimensions, pose knotty problems for the teams:

Mirosot Middle League Robot size: 7,5 cm x 7,5 cm x 7,5 cm

Robots per team: 5

Pitch size: 220 cm x 180 cm

Mirosot Extended Middle League Robot size: 7,5 cm x 7,5 cm x 7,5 cm

Robots per team: 5

Pitch size: 280 cm x 220 cm

Mirosot XL Middle League Robot size: 7,5 cm x 7,5 cm x 7,5 cm

Robots per team: 5

Pitch size: 400 cm x 280 cm Mirosot Large League Robot size: 7,5 cm x 7,5 cm x 7,5 cm

Robots per team: 11

Pitch size: 400 cm x 280 cm Narosot League

Robot size: 4 cm x 4 cm x 5 cm

Robots per team: 3 Pitch size: 130 cm x 90 cm

Two Locations

The two official EUROBY "stadiums", the Altes Rathaus (main location 1) and the Kunstuniversität (University of Arts - main location 8) are situated right in the centre of Linz. Inside the Rathaus, the Assembly Hall and the Renaissance Hall (both on the 1st floor) will be used as football grounds, while the fan fest will be held in the foyer on the ground floor. In the Kunstuniversität, the foyer is the playing field, while the CIRAS conference will be held in the auditorium on the 1st floor.



EUROBY Fan Fest in the foyer of the Altes Rathaus

The EUROBY may not always be serious, but it's seriously involved in exploring different aspects of robotics. In fact, the matches themselves symbolise this. They seem to be about game-playing, but they actually provide scientific knowledge for serious uses in business and industry. The **hexapods** developed in Hagenberg have a scientific background — they come from bionics. These six-legged robo cheerleaders urge on their "colleagues" on the pitch along with the spectators on the sidelines. Meanwhile, the Brainball installation presents an ironic artistic view of the match-up of sport and technology. The players propel the ball into the goal with their brain waves; instead of energetic input, it is the maximum possible degree of relaxation that decides who wins or loses. KNIFE.HAND.CHOP.BOT by the Austrian artists' group 5VOLTCORE questions the trust we place in machines — or not. It is based on the kind of test of courage we all know from our youth: you place your hand flat on a panel and press the button to start the remote-controlled knife moving up and down. The blade unerringly jabs not into, but between your fingers — at least, as long as your nerve holds out. But if your hand starts sweating, this disturbs the machine's sensors and affects the knife's accuracy. KNIFE.HAND.CHOP.BOT is a self-fulfilling prophecy, because you start by thinking the machine is going to make painful errors. The Robocoaster, a standing overhead conveyor with a height of almost seven metres, will point your way to this entertaining, informative robotic "trade fair". Designed like the arm of an industrial robot, the Robocoaster turns to the left, swinging out lightly - and whirls its passengers through the air.

Workshops

The EUROBY is big on participation, which means some of the robotic attractions in the foyer of the Altes Rathaus are not just there to look at, but specially designed for trying out free of charge.

Hexapod Petting Zoo	A petting zoo with a difference: big and small robotic fans can have direct contact with the Hagenberg Hexapods here. You can steer the hexapods through the foyer of the Altes Rathaus using PlayStation game pads.
Hexapod Workshop	How do you teach hexapods to walk? Students and professors from Hagenberg Technical College offer a glimpse behind the scenes.
Robo Sumo Wrestling	The Robo Racing Team from Wels University of Applied Science presents the successful robots from the



Robogames (San Francisco) and RobotChallenge (Vienna). The Sumo wrestlers compete for audience popularity in three different weight classes — mini, micro and nano. To add to the fun, the robotic experts from Wels will show their line following robots and solar robots. Space2Go is a programmed Point and Click Adventure Space2Go & Little Runner game by students at Leonding Technical College. The graphics give it special appeal — while Little Runner takes his cue from his "colleague", Super Mario. QuizBot QuizBot from Leonding is a Lego Robot that acts as quizmaster with speech recognition and voice response. As in popular TV quiz shows, QuizBot puts questions to the person in the hot seat and checks the answers right away. The Asuro Robot is used on the programming course at **Asuro** Leonding Technical College. It specialises in line following or finding its way through mazes.

International Conference on Computational Intelligence, Robotics and Autonomous Systems (CIRAS)

So far, the five gatherings of the International Conference on Computational Intelligence, Robotics and Autonomous Systems (CIRAS for short) have all been held in Asia. This year CIRAS will meet in Europe for the first time. CIRAS is organised by Dortmund University's Faculty of Information — led by Dr. Norbert Jesse — and Vienna Technical University's Institute for Handling Devices and Robotic Technology. CIRAS aims to provide a forum for scientists and experts to highlight discussion on the fields of computational intelligence, robotics and autonomous systems with their different points of contact, whether scientific or practice-orientated. The first CIRAS gathering was held in Singapore in 2001. The CIRAS events series was initiated by Prof. Prahlad Vadakkepat from the National University of Singapore, who has done years of successful research on autonomous and humanoid robots and bio-morphological machines (details at http://www.ciras2008.org).

Media Presentation

Joint organisers of the media presentation of EUROBY 2008 are the Stadtwerkstatt Linz and St. Polten Technical College. The robot soccer games will be filmed by two mobile camera teams from St. Polten Technical College, and directed live in the foyer of the Altes Rathaus in Linz, putting together the latest information from each football game. All the images will be transferred to a large-format screen and produced in parallel as a



video stream for TV channels. The most exciting scenes and impressions of the day will be screened every evening as part of a live studio production. At the control desk, free associations and ready-made elements will be merged with the images produced directly on the spot. Another feature is the use of a remote-controlled vehicle equipped with a wireless camera set and wireless screens, developed at St. Polten Technical College. This is the fhSPACETRUCK, which combines applied media technology and creative media design — two important elements of topical media discourse.

Organisers and Sponsors

The EUROBY 2008 is an official event of the Federation of International Robosoccer Associations (FIRA). After lengthy preliminary work and exploratory discussions, the Stadtwerkstatt Linz initiated the project of the European Robot Football Cup in Linz and developed a concept for the event. They set up an organisation committee and brought in project partners. After Vienna University of Technology's Institute of Handling Devices and Robotics (IHRT) gave its support, the Federation of International Robosoccer Associations (FIRA) eventually accepted the bid for cooperative games in Linz and Zurich. Meanwhile, the support of Dortmund University's Faculty of Computer Sciences meant that the CIRAS conference could be staged in Linz as well. For the Stadtwerkstatt, the robot competition follows on seamlessly from a longtime concept of sporting events in the context of art events. The idea is always to create gateways (often unusual ones) and ensure adequate media presentation of the event. An alternative approach to the topic of football at the same time as the European Cup in June 2008 is simply a must! Whereas the monopoly situation in the football sector means an overkill of cheap entertainment and consumption, EUROBY 2008 offers science and artificial intelligence.

Vienna University's Institute of Handling Devices and Robotics (IHRT) is managing the scientific side of EUROBY 2008. Joint organizers are Wels University of Applied Science, Leonding Technical College, Stadtwerkstatt, St. Polten Technical College and Ars Electronica Linz GmbH. EUROBY 2008's major sponsor is the City of Linz; other sponsors include Conrad Elektronik, KUKA Robot Group, LIWEST, DIREKTA, Starzinger GmbH & Co KG, Casinos Austria, Fabasoft, the Upper Austrian Industrial Association and the Upper Austrian Chamber of Commerce's expert group on management consultancy and information technology. The Oberösterreichische Nachrichten news service is collaborating on the media side.