

## The Teams



### AVORA

**University of Las Palmas de Gran Canaria (Spain)**

**ROBOT:** Charle (sea)

**Sea scenario**

**Award archive:** Participants at SAUC-E '13 and '14

**What's special about them?** Their vehicle is 100% developed in-house, and this make it a genuine product of the Canary Islands. They have also tested it for archaeological underwater applications.



### AUGA

**ACSM (Spain)**

**ROBOT:** SPARUS II AUV (sea)

**Sea scenario**

**Award archive:** No previous experience in competitions.

**What's special about them?** They are from the Spanish region Galicia and they named the team "AUGA" after the word "water" in Galego, their regional language. They do not have previous experience in underwater robotics competitions but they have proudly decided to take on this new challenge. They will use a SPARUS II AUV, the underwater robots developed by the University of Girona, made available to loan to less experienced teams thanks to an agreement with CMRE. They will participate in euRathlon along with ACSM (Advanced Crew and Ship Management), specialised in maritime services since 15 years.



### AUV Team Tom Kyle

**University of Applied Sciences of Kiel (Germany)**

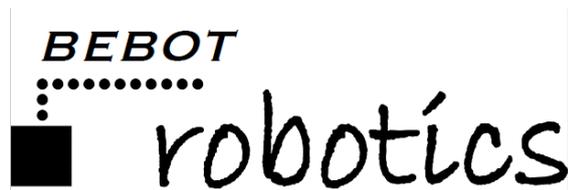
**ROBOT:** Robbe 131 (sea)

**Sea scenario,** matching with Bebot team for the Grand Challenge

**Award archive:** Second place at SAUC-E '14.

**What's special about them?** Thanks to SAUC-E and euRathlon challenges they have started a wide collaboration with GEOMAR Helmholtz Centre for Ocean Research Kiel. The collaboration goes beyond the robotics competitions and it includes littoral oceanographic research studies. Their robot, a low cost platform by GEOMAR can operate at 150 meters depth.

**What do they say about themselves?** "While we competed in SAUC-E in La Spezia last year we had a near death experience every time we drove to and from the place of event. We as Germans are not used to really small streets, a mountain to the left, and abyss to the right. But we challenged it and now we fear nothing whatever will be coming in Piombino!"



## **Bebot team**

**University of Applied Sciences of Bern  
(Switzerland)**

**ROBOTS:** Bebot (land), Bee (air)

**Land and sea scenarios,** matching with AUV Team Tom Kyle for the Grand Challenge

**Award archive:** ---



## **B.R.A.I.N. Robots**

**B.R.A.I.N. Robots e. V.  
(Germany)**

**ROBOTS:** Monique (land),  
Alice (land), Caro (air),  
Hannah (sea)

**Land and sea scenarios,**  
matching with UNIFI Team for  
the Grand Challenge

**Award archive:** Best team effort award at euRathlon 2013.

**What's special about them?** The team is made exclusively by students and former students from various German universities aiming at developing SAR (Search and Rescue) robots.

**What do they say about themselves?** They speak about their preparation online at <http://www.brainrobots.de>



## **Cobham**

**Cobham Mission Systems (Germany)**

**ROBOT:** telemax (land)

**Land scenario,** matching with Universitat de Girona and ISEP/INESC TEC for the Grand Challenge

**Award archive:** First place at euRathlon 2013, participants and several awards at ELROB (numerous editions)

**What's special about them?** Cobham is a manufacturer of tele-operated robotic systems for bomb disposal and hazmat handling. They operate since 2006 and they have more than 650 systems in service worldwide (> 50 countries).

**What do they say about themselves?** They speak about themselves on YouTube <https://www.youtube.com/channel/UCcSUOvCbNJsEVcTSZm4rMkw>



## **ENSTA Bretagne Team 1 & Team 2**

**ENSTA Bretagne (France)**

**ROBOTS:** SAUC'ISSE (sea), SARDINE (sea), USV (sea), TOUTATIS AUV (sea), LIRMIA III AUV (sea), VICI CISCREA AUV (sea), ETAS WHEEL (land), ETAS TRACK (land), TREX (land) e BUGGY (land), indoor quadrotor (air), outdoor quadrotor (air).

**All scenarios and Grand Challenge**

**Award archive:** Third place at euRathlon 2013, winners of SAUC-E '14 and second, third and fourth places in some of the euRathlon 2014 scenarios.

**What's special about them?** ENSTA Bretagne is the only institution which registered two teams and the only one that has participated in all euRathlon editions.

**What do they say about themselves?** "Most of our robots are home-made. Last year, we were probably the ones that used the most collaboration between different robots (surface robot helping underwater robot) and we expect to do similar kind of collaboration also between ground and aerial robots this year. We participate every year to several robotics competitions in various domains. For this reason, euRathlon will be the fourth competition of the year for some of our students!"

## ISEP/INESC TEC Aerial team

### ISEP/INESC TEC (Portugal)

**ROBOT:** OTUS (air)

**Air scenario**, matching with Universitat de Girona and Cobham for the Grand Challenge

**Award archive:** No previous experience in robotics competitions.

**What's special about them?** INESC TEC is also part of the ICARUS project where they developed a robotic capsule for first aid at sea.

Created for euRathlon, the team matches the capabilities of the polytechnic school of ISEP and the capabilities of the INESC TEC research centre as part of students' projects.

## ICARUS

### ICARUS FP7 Project (Belgium, Germany, Poland, Portugal, Spain)

**ROBOTS:** ASCAMM -LIFT-V e ASCAMM -LIFT-VI (air), UKL-SUGV e RMA-IMM-tEODor (land), INESC\_ROAZ e INESC\_MARES (sea).

### All scenarios and Grand Challenge

**Award archive:** No previous experience in robotics competitions.

**What's special about them?** The ICARUS team is composed by some of the FP7 ICARUS project (<http://www.fp7-icarus.eu/>), but not all of them. Some partners already took part in previous euRathlon competitions. This helped to cross-fertilise both projects. It is a great opportunity to exchange experiences and ideas with the best research groups in the field.

ICARUS is a four-year European project developing assistive robotics tools to support Search and Rescue teams in their life-saving humanitarian missions. ICARUS focuses both on Marine and Urban Search and Rescue (MSAR and USAR). In some sense, ICARUS is a team of teams. An ICARUS team is composed by aerial, ground and maritime vehicles working together through an interoperable protocol, a common network and a single Command and Control station. The platforms have been carefully selected to be complementary. The project explores the possible collaboration between a fixed wing solar endurance



airplane, outdoors and indoors multirotors, large and small ground robots and large and small marine platforms.

ICARUS has already operated in a real disaster scenario: the floods in Bosnia in 2014.

**What do they say about themselves?** “ICARUS scenarios were defined by our end-users and even though highly realistic, they have been known to us during the developments. Instead, euRathlon poses the possibility to evaluate the capabilities of the system in an unknown scenario”.



## **Team Nessie**

**Ocean Systems Laboratory & Heriot Watt University (United Kingdom)**

**ROBOTS:** NESSIE VII and E.M.I.L.Y. (sea).

**Sea scenario**, matching with RRT-Team for the Grand Challenge

**Award archive:** Participants at SAUC-E, several times

**What's special about them?** Team Nessie of the Ocean Systems Laboratory has participated previously in other underwater competitions, however this year's line-up is additionally conformed by researchers of other laboratories and institutions namely Seebyte Ltd., the German Research Centre for Artificial Intelligence and Atlas Elektronik. This alliance builds a collaborative network of doctorate students with different backgrounds but with a common ambition of innovation and applications in underwater robotics. Some students are part of another European Project called Robocademy (<http://www.robocademy.eu/>).

**What do they say about themselves?** “Throughout these last months of developing, the team has established a regular long-distance scheme of creative and productive teamwork. It wasn't only until a few weeks ago that part of the team in Bremen and Edinburgh finally met during a series of successful trial runs in Loch Earn, Scotland, to undergo pre-euRathlon tests with NessieVII and E.M.I.L.Y.”



## OUBOT

**Obuda University (Hungary)**

**ROBOT:** SPARUS II AUV (sea)

**Sea scenario**

**Award archive:** No previous experience in robotics competitions.

**What's special about them?** It is a young team born for euRathlon and willing to learn. They will use a SPARUS II AUV, the underwater robots developed by the University of Girona, made available to loan to less experienced teams thanks to an agreement with CMRE.

**What do they say about themselves?** “Since Hungary does not have sea, there are not too many marine research groups here. But we have cold and warm (thermal) lakes with limited visibility, and rivers with strong current. So plenty of challenges are available for us. Moreover, it is always funny when our team leader (a university professor) is swimming in a cold mine-lake in panties to be sure that the Sparus will not get lost...!”



## Robdos Team Underwater Robotics

**Robdos SRL / Universidad Politecnica Madrid (Spain)**

**ROBOT:** SPARUS II AUV (sea)

**Sea scenario**

**Award archive:** Participants at euRathlon 2014.

**What's special about them?** Robdos Team is special in the way that all our team is composed by university students from different fields: naval engineers, software engineers and industrial engineers, being this year our second consecutive participation in the competition. Our team arises from the collaboration of the Universidad Politécnica de Madrid and the startup Robdos, which focuses its activity in underwater robotics. They will use a SPARUS II AUV, the underwater robots developed by the University of Girona, made available to loan to less experienced teams thanks to an agreement with CMRE.

**What do they say about themselves?** “The SPARUSII is a special robot because it has given us the opportunity to learn how this robotic platforms work and how to develop them. As university students, we have the opportunity to use and implement the knowledge acquired during our Bachelor and Master degrees. It is an opportunity that not all the undergraduate students have. Moreover it is also interesting to see how the other teams face the trials and how they have developed their robots”. They also speak about themselves online at [www.robdosteam.com](http://www.robdosteam.com) and on social media as “RobdosTeam”.



## RRT-Team

University of Applied Sciences Upper Austria (Austria)

**ROBOT:** MARK and RED SCORPION (land)

**Land scenario,** matching with Team Nessie for the Grand Challenge

**Award archive:** Rookie at euRathlon but Robocup Rescue veterans.



**What's special about them?** It's maybe one of the oldest teams (10 years) and the one who travels the most, for example to compete Robocup Rescue League. Their robots are built in-house, including the electronic and mechanical small parts.

**What do they say about themselves?** "We have just ended our participation at Robocup China....we hope that our robots will be back in

Europe in time for euRathlon!"

## SARRUS – Search And Rescue Robot of UPM & SENER

UPM & SENER (Spain)

**ROBOT:** Summit XL (land)

**Land scenario**

**Award archive:** No previous experience in robotics competitions.

**What's special about them?** The team is born in 2014 in Madrid, matching experts in robotics and cybernetics from the Centre for Automation and Robotics (CAR UPM-CSIC) along with SENER Ingeniería y Sistemas, S.A., company specialized in the topic.



## **UNIFI Team**

**University of Florence (Italy)**

**ROBOT:** FEELHIPPO e MARTA (sea), BATIGOL (air)

**Sea and air scenarios,** matching with B.R.A.I.N. Robots for the Grand Challenge

**Award archive:** Best rookie at SAUC-E '12, second place at SAUC-E '13.

**What's special about them?** UNIFI team is the only Italian team composed by around 15 researchers, students and PhD students, all under 30 years old. Beyond euRathlon they are already working on robotics applications for underwater archaeology as part of the projects Thesaurus and Arrows.

**What do they say about themselves?** "Of the three robots showcased at euRathlon, one is designed for underwater use and two for aerial application: MARTA ("MARine Tool for Archaeology") came to light when the need was felt to produce a versatile modular vehicle with the capability of meeting the requirements related to marine archaeological operations. Practically speaking, it's a matter of a multi-modular system provided with a series of sensors that may be assembled and disassembled, allowing users to modify its structural configuration according to their needs. When compared with MARTA, FeelHippo – which was created for the annual SAUC-E ("Student Autonomous Underwater Vehicle Challenge – Europe") in 2013 – appears smaller and more easily manoeuvrable. The list is completed by our aerial robot: the quadcopter – an X-shaped four-propeller aluminium structure"..At euRathlon "we will take advantage of the precious opportunity not only to measure ourselves against colleagues from other countries, bearers of different experiences and expertise, but also – which is not to be underestimated – to test ourselves as a team, while developing our planning and coordination skills, indispensable abilities in the world of work".



## **Universitat de Girona**

**University of Girona (Spain)**

**ROBOT: SPARUS II AUV**

**Sea scenario**, matching with Universitat de Girona and ISEP/INESC TEC for the Grand Challenge.

**Award archive:** Participants in several SAUC-E editions where they won in 2006 and 2010. First

place at euRathlon 2014.

**What's special about them?** It's a team with a long history. Nevertheless every year almost all the students are new in order to give this great opportunity to the largest amount of people. They are the only team to have created a robot, the SPARUS II AUV, which is so reliable to be loaned to help unexperienced teams (through CMRE support). The SPARUS II AUV is completely open in terms of hardware and software. It can easily integrate many equipment in the payload area and uses the open source ROS framework to program the control architecture of the robot. Users can integrate software libraries developed by other researchers and it allows an easy development of all the required systems for an advanced underwater robotic task.

**What do they say about themselves?** “We expect to demonstrate a good performance of our AUV and our software, since we will use the systems developed in our laboratory. We think that this year, since the 3 domains will be represented, the competition will be a very interesting experimental area to demonstrate the capabilities of air, land and underwater robotics, and we expect many synergies during and after the competition”.