

# PhotonHub Demo Centre

Advanced laser welding

## Course Provider

AIMEN Technology Centre,  
Spain

# Course Overview

Laser welding of metal sheets is an already established technology in the industry, mainly from the automotive sector for applications such as body in white or Tailor Welded Blanks. However laser welding also offers very interesting possibilities for other types of material configurations such as high thickness metal sheets, polymer welding or dissimilar welding.

This one-day hands-on training course provides industry, especially those addressing material processing, with a detailed overview of possibilities brought by lasers in the field of laser welding, and technical aspects that should be considered to select your equipment and setup your process.

The course will focus on three hands-on activities; 1) laser welding of polymers; 2) laser welding of dissimilar metallic joints; 3) hybrid laser welding of metals. Course attendees will learn how to setup their processes, considering quality issues from the beginning.

# Target Audience

It is desirable but not essential that course attendees have a basic understanding of laser processing of materials. The course is ideally suited to those planning to develop new welding processes, establish in-house or outsource manufacturing using laser processes.

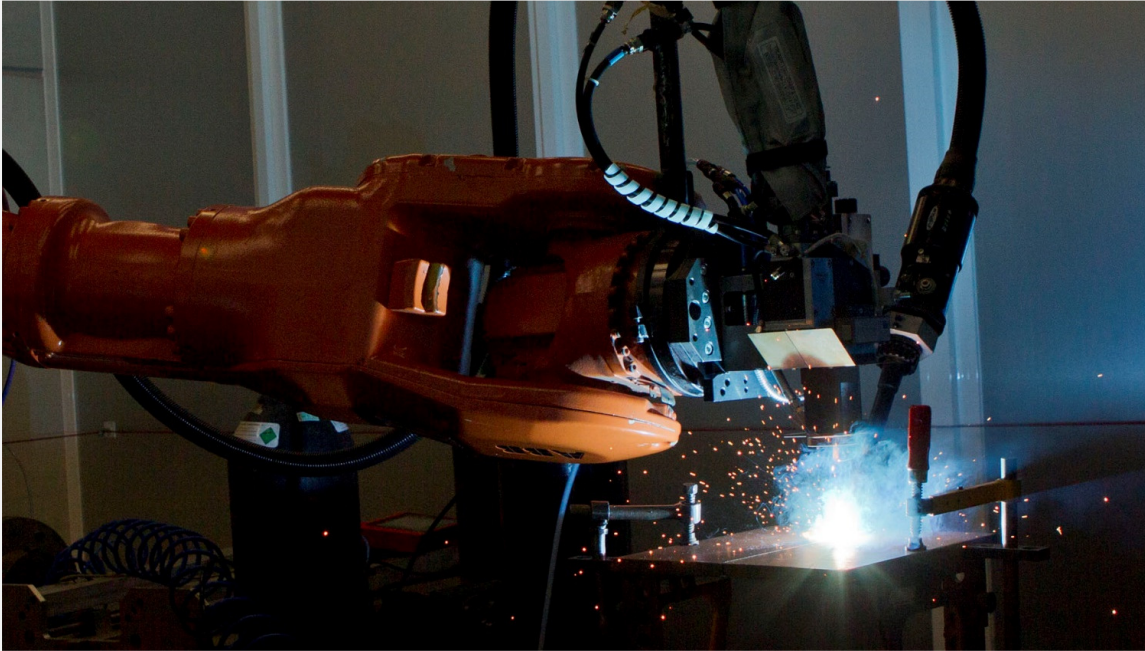
# Expected Outcomes

- 1) Understanding of key features of laser welding in different scenarios
- 2) See the fabrication processes in representative environment (hands-on activity)
- 3) Understand the quality aspects related to the process (hands-on activity)
- 4) Considerations to select the adequate equipment for your process

# Course Schedule

| <b>Time</b>   | <b>Demo Activity</b>                                    |
|---------------|---|
| 09:00 – 10:30 | Course Introduction & Laser welding processes (lecture) |
| 11:00 – 12:30 | Demo 1: Laser welding of polymers (hands-on)            |
| 12:30 – 14:00 | Demo 2: Dissimilar metal welding (hands-on)             |
| 15:30 – 17:00 | Demo 3: Laser-arc hybrid welding of metals (hands-on)   |
| 17:00 – 17:30 | Follow-Up Questions & Close                             |

# Course Trainers



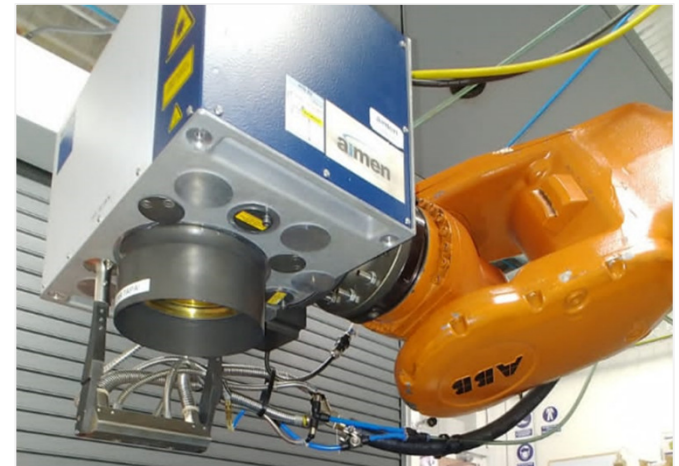
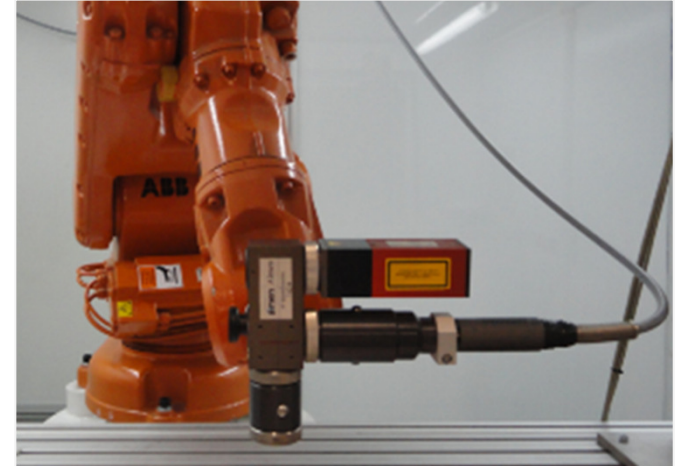
**Course Director: Ambroise Vandewynckèle**

**Course Manager: Rosa Arias**

**Demo 1: Felix Ares**

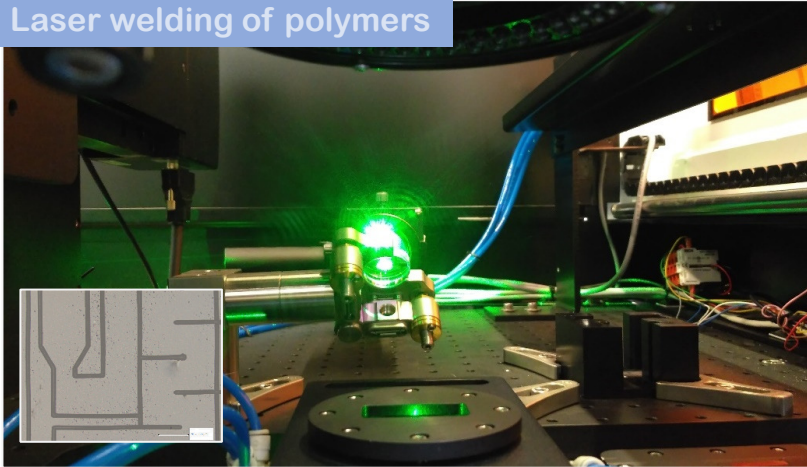
**Demo 2: Rosa Arias**

**Demo 3: Eva Vaamonde**

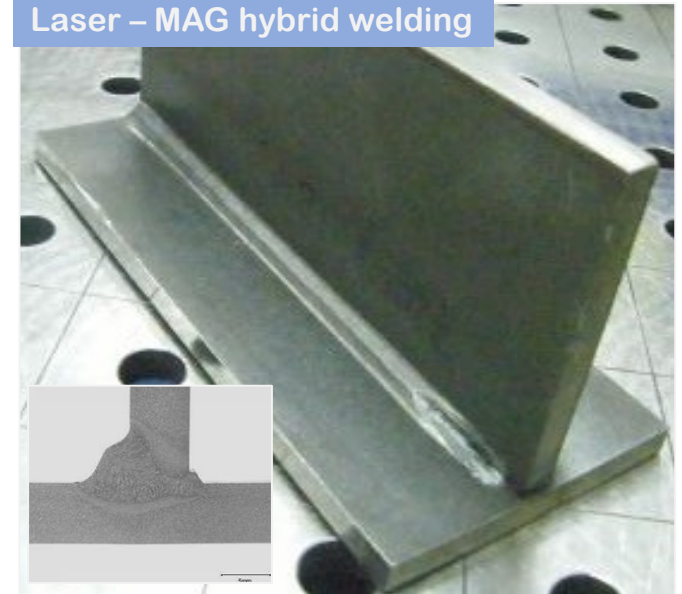


# Course Demonstrators

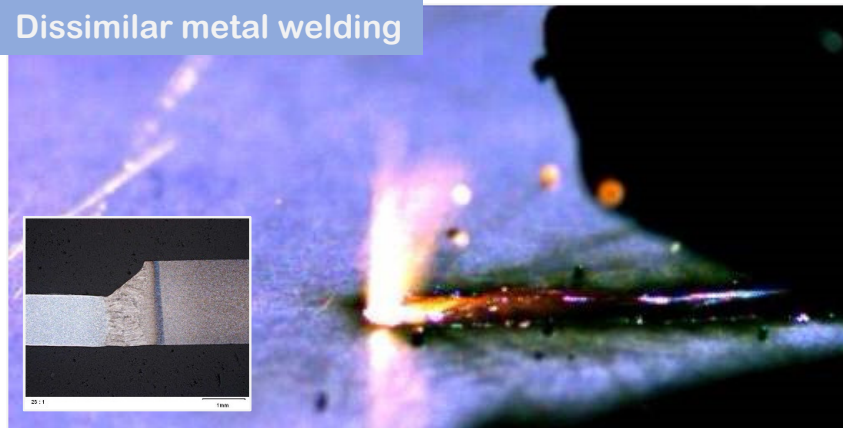
Laser welding of polymers



Laser – MAG hybrid welding



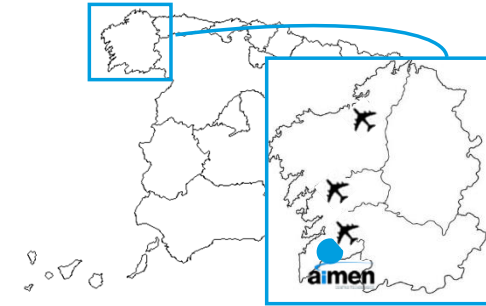
Dissimilar metal welding



# Course Location, Schedule & Cost



AIMEN  
Technology  
Centre,  
Spain



- Course Schedule (March, June, November – exact dates to be confirmed)
- Number of people (Groups of 6 people per course)
- Course Cost (250€)

## Further Information

- [promero@aimen.es](mailto:promero@aimen.es)
- [www.aimen.es](http://www.aimen.es)
- [www.photonhub.eu/euphotonicsacademy](http://www.photonhub.eu/euphotonicsacademy)

# Keywords

Laser welding, Metals, Polymers, Dissimilar joints, Laser arc hybrid welding, Process monitoring, Quality control, Automation, High speed imaging, Optics, Laser safety, Machine vision, Robotized Processes.

## Relevant Technology & Application Domain

Technology: Laser Based Manufacturing