Petawatt laser first shot by the King of Spain

Prof. Luis Roso is the director of the CLPU: the Center of Ultrashort Laser Pulses in Salamanca (Spain)

Last 18th September, Their Royal Highnesses, the King and the Queen of Spain presided over the commissioning of the first Spanish petawatt laser - called VEGA - in the Pulsed Lasers Center (CLPU) facility in Salamanca (Spain) . They were accompanied by the current Spanish Minister of Science, Innovation and Universities, Pedro Duque, and the director of CLPU, professor Luis Roso, among other authorities. VEGA is one of only three petawatt lasers in the world capable of being fired once per second. With this state-of-the-art equipment, the CLPU becomes a center of international reference in scientific and technological research in the field of intense pulsed lasers.

This facility is the result of the collaboration agreement between the Spanish Government, the local administration of Castilla-León (Spain) and the University of Salamanca (Spain). The three organizations have deeply collaborated since the creation of the consortium that manages the design, construction, infrastructure equipment and operation, whose financing amounts to more than twenty millions of euros for investments. The special architecture of the facility allows the researchers to have three different outputs that can be synchronized: VEGA-1 of 20 terawatts, VEGA-2 of 200 terawatts and VEGA-3, of one petawatt. Although experiments with VEGA-2 have already been carried out this year, the operation of VEGA-3 makes the Pulsed Lasers Center into a fully operational facility and an international benchmark infrastructure example of the success of the collaboration between public administrations and researchers from the university. Thanks to the versatility of its design, VEGA has potential impact in many disciplines and fields such as plasma physics, particle acceleration, physics at extreme intensities, laboratory astrophysics, etc.; thus contributing to the development of the scientific ecosystem of Salamanca.

The goal of CLPU is to offer state-of-the-art technology to national researchers as international. Therefore, although the CLPU does its own research in support of scientific-technical development of high-intensity lasers, is primarily a center of users. To this unique profile of leading research, the facility has developed two other strategic lines: innovation and knowledge transfer (promoting public-private collaboration with companies in the field of health, safety road and the aeronautical sector, among others); and disclosure (focused primarily on information to society and in the promotion of scientific vocations). The CLPU and its VEGA petawatt laser, co-financed by the ERDF Funds, are located in the Science Park of the University of Salamanca, which this year commemorates its eighth centenary.

Luis Roso
(CLPU Director)

Right: His Royal Highness, the King of Spain, in the presence of Queen Letizia, pushes the button for the first shot of the petawatt VEGA laser in CLPU facility, last 18th September. The photos are a courtesy of CLPU in Salamanca (Spain).