



# EUROPEAN PLASMA RESEARCH ACCELERATOR WITH EXCELLENCE IN APPLICATIONS

## Working Package 11 FEL pilot Applications

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## SOLEIL-LOA activities :

- Transport line installed
- Electron beam has been transported.
- Diagnostics under commissioning.
- Run 3 is finishing this week ! : transport is achieved in the full line, data are under analysis

## Hamburg University Activity

- First electrons generated in June 2016
- Continuous gas-flow target operational
- Current upgrading diagnostics

1 **post-doc** : F. Massimo has been hired for 24 months (CNRS/LOA), working on numerical simulations of Laser Plasma Accelerators for FEL applications

1 **post-doc** : Start early 2017 for simulations and undulator development (University of Hambourg)

## Events: Participations at

- EuroNNAC and EuPRAXIA Workshop on a European Plasma Accelerator, 29th June - 1st July 2016, Pisa, Italy
- Erice School-Workshop "Trends in Free Electron Laser Physics", 17-23 May 2016, Erice, Italy
- Daresbury workshop « Designing Future X-ray FELS », 31/08-02/09 (2016)

## Publications:

" Comparisons of time explicit hybrid kinetic-fluid code Architect for Plasma Wakefield Acceleration with a full PIC code ", by F. Massimo, S. Atzeni and A. Marocchino, Journal of Computational Physics 327, 841 (2016)

" Real time monitoring via second-harmonic interferometry of a flow gas cell for laser wakefield acceleration ", by F. Brandi, F. Giammanco, F. Conti, G. Lambert, and L. A. Gizzi, Review of Scientific Instruments 87, 086103 (2016)

- Analysis the data. Performed more simulations on the basis of the results got so far.
- Preparation of the next runs in the different laboratories
- Detailed numerical studies of injection mechanisms