

Helmholtz VI-PWA Annual Meeting, SLAC, 11.7.14

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Introduction

Background to the meeting

Agenda

What is a VI?

- **“A Helmholtz Virtual Institute brings together the key competencies of one or more Helmholtz Centres with those of one or more universities to create a centre of excellence of international standing. This serves to create a new quality of cooperation strengthening scientific excellence and increasing international competitiveness. Other national or international partners may be involved as associated partners.”**

What is this VI?

- **“Plasma wakefield acceleration of highly relativistic electrons with FLASH” – based on upgrade of FLASH FEL facility at DESY**
- **Scientific goals:**
 - **the characterization of externally injected and accelerated electron beams and their release from a beam-driven wakefield accelerator as a mandatory pre-study for future staged wakefield schemes**
 - **the exploration of novel in-plasma beam-generation and acceleration techniques to provide high-quality, 1.6 GeV energy electron bunches over acceleration distances of ~10 cm**
 - **the investigation of such beams with the aim to drive a free-electron laser at wavelengths on the few nanometer scale**

What is this VI?

- **Work based on weekly project meetings at DESY and 4 working groups:**
- **WG 1: plasma simulations - coordinated by J. Vieira and A. Martinez de la Ossa**

WG 2: plasma-cell technologies – coordinated by P. Muggli and L. Schaper

WG 3: beam instrumentation and transport – coordinated by I. Konoplev, V. Libov

WG 4: photon generation - coordinated by C. B. Schroeder and C. Behrens

VI context

- Since inside & exploits synergies with the broader work of the VI partners
- In particular in DESY – LAOLA Collaboration



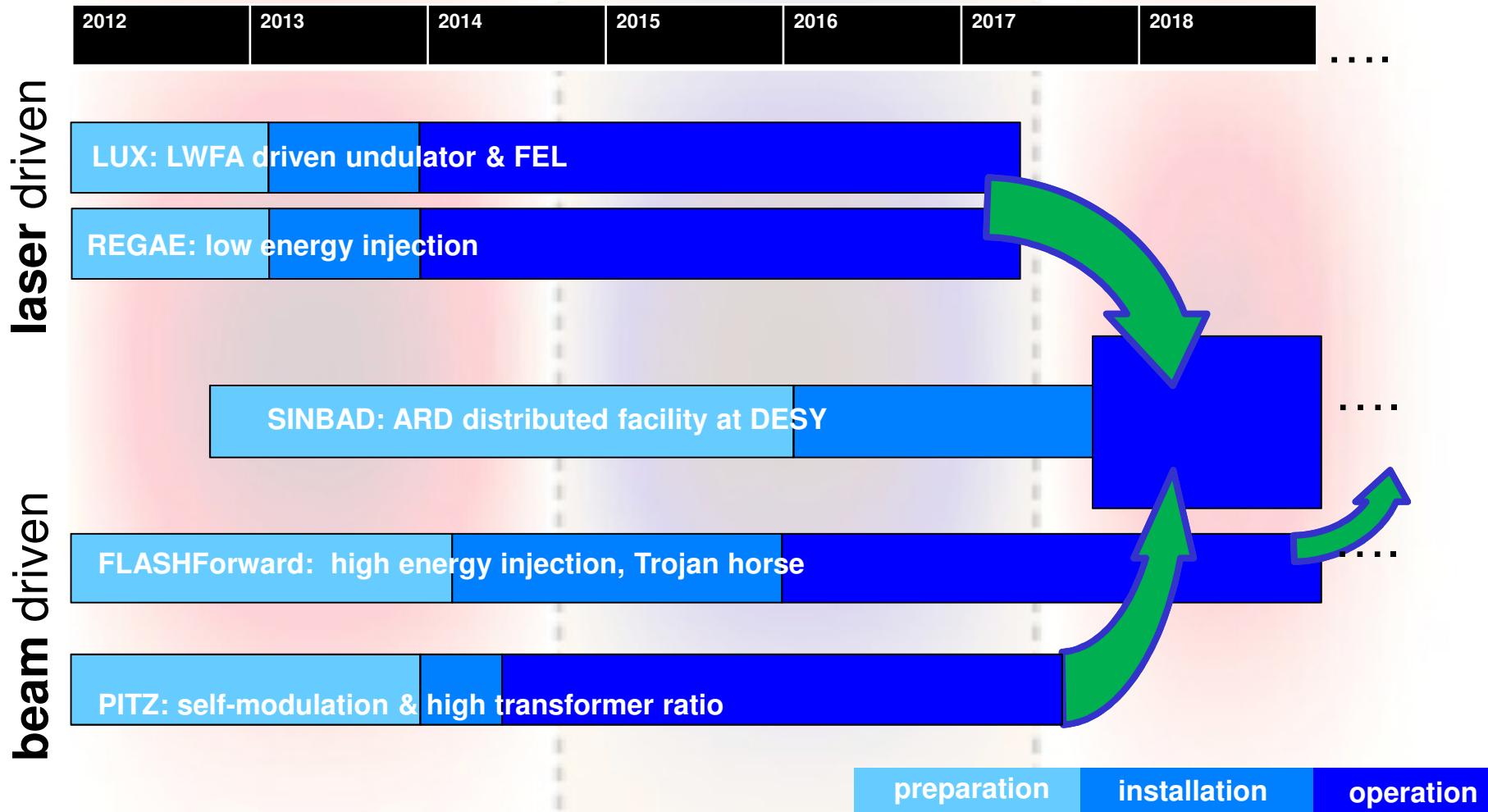
LAOLA Board

R. Aßmann	(co-chair)
R. Brinkmann	(DESY directorate)
U. Dorda	(scientific secretary, PL SINE)
E. Elsen	(link particle physics)
K. Flöttmann	(PL REGAE)
B. Foster	(Head VI)
F. Grüner	(speaker)
B. Hidding	(PL trojan horse)
A. Maier	(PL LUX)
B. Marchetti	(PL Ares)
J. Osterhoff	(PL FLASHforward)
H. Schlarb	(ps/fs beams)
B. Schmidt	(co-chair)
F. Stephan	

Decision body. Meeting every two weeks with minutes and action list for follow-up.

VI context

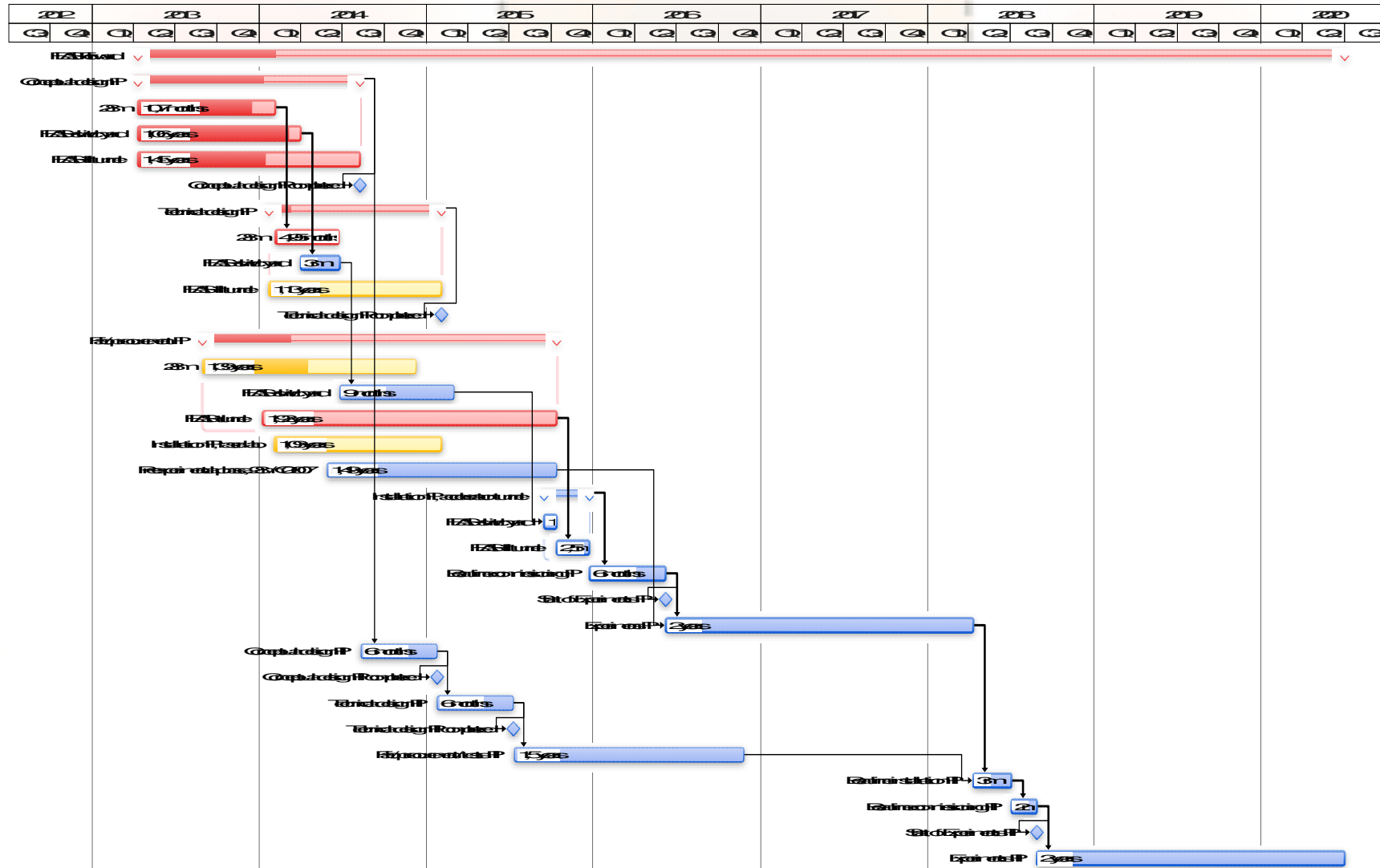
- LAOLA constituent project timeline



Since our last meeting

- **Technically, as you will hear from Jens and Others, lots of progress.**
- **Administratively, steps backwards:**
 - **DoE problems with ability to sign MoUs means that SLAC, LBL could not become Associate members – travel funding can be obtained but must be administered through DESY**
 - **Turned out to be prohibitively difficult to add new Associate members, even though Several would have been interested.**
- **“Mid-term” review by Helmholtz summer next year.**

VI project plan



AGENDA

- 1) Introduction and status of VI B Foster (10')
- 2) Status of Flashforward design J Osterhoff (30')
- 3) Reports from Working groups (10' each)
 - d) Diagnostics V Libov (by phone)
 - b) Photons C Behrens (by phone)
 - c) Plasma Cells L Schaper
 - a) Simulation A M de la Ossa
- 10:00 - 10.15 Coffee
- 4) Report from JAI on VI issues - A Seryi (10')

AGENDA

- 5) Reports on relevant activities at VI member labs (15 mins each)
 - a) SLAC - FACET & FACET2 status - M Hogan
 - b) Berkeley - W Leemans
 - c) UCLA – J. Rosenzweig (by phone)
 - d) Frascati - M Ferrario
 - e) MPI - P Muggli
 - f) DESY - LAOLA – R Assmann
 - g) JAI - A Seryi
- 12:30 - 1:30 Lunch
- 6) Future plans & discussion - All (1 hour)
including preparation for 2015 review
- 7) AOB