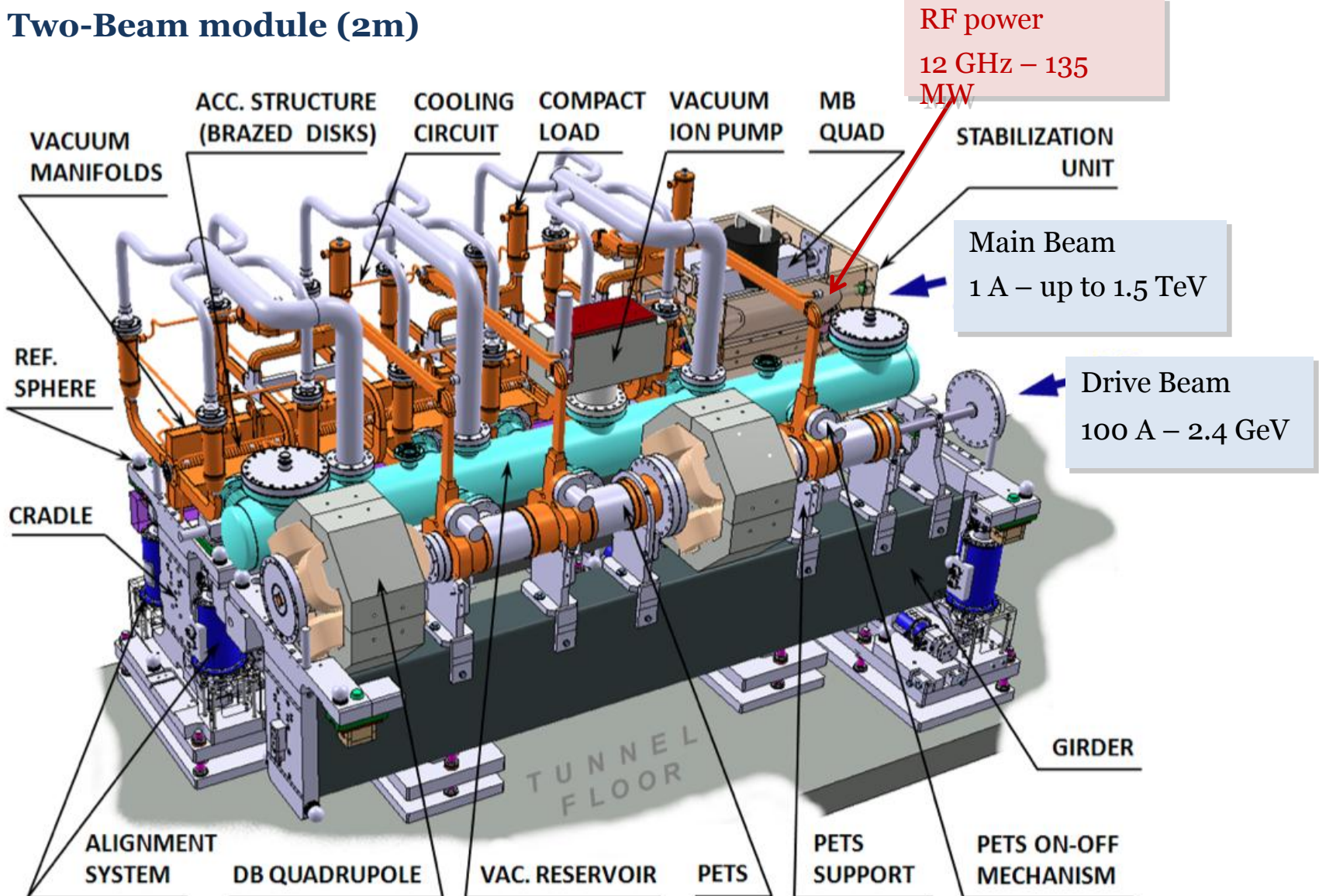
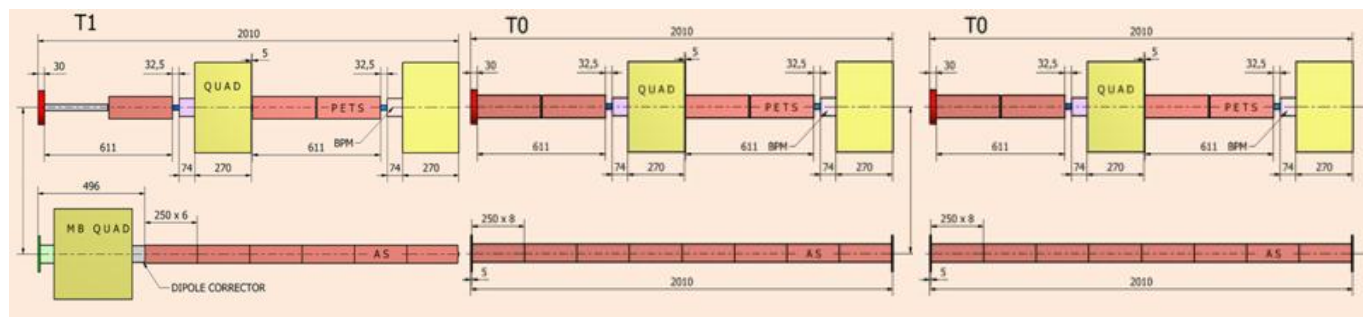




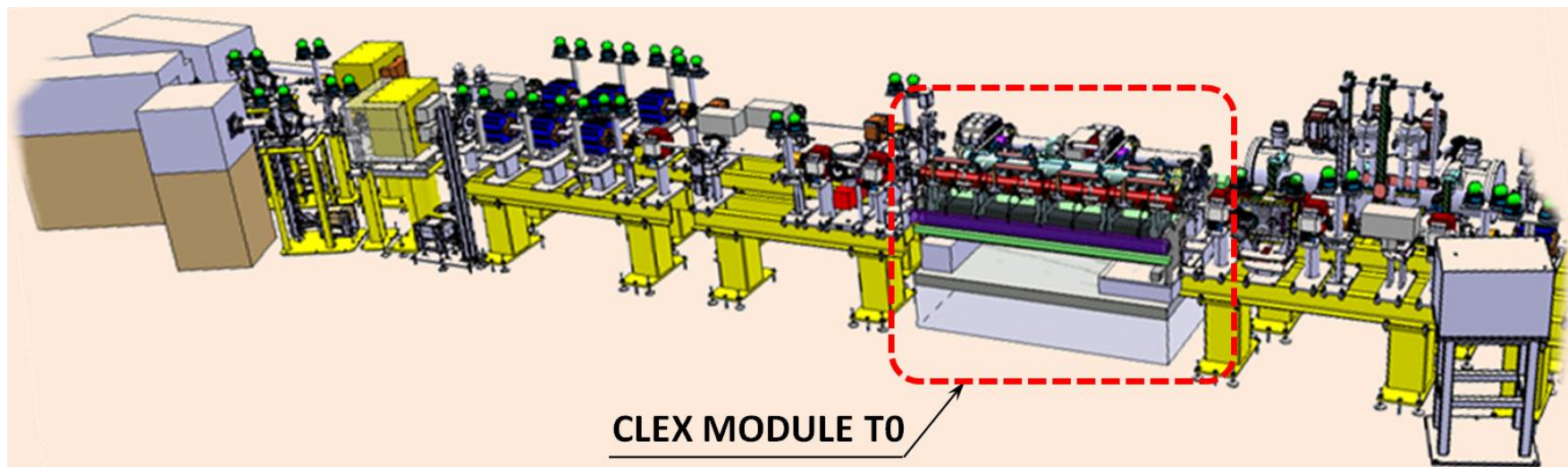
CLIC Two-Beam module (2m)





- 3 modules to be tested with beam and RF
- module layout compatible with CLEX

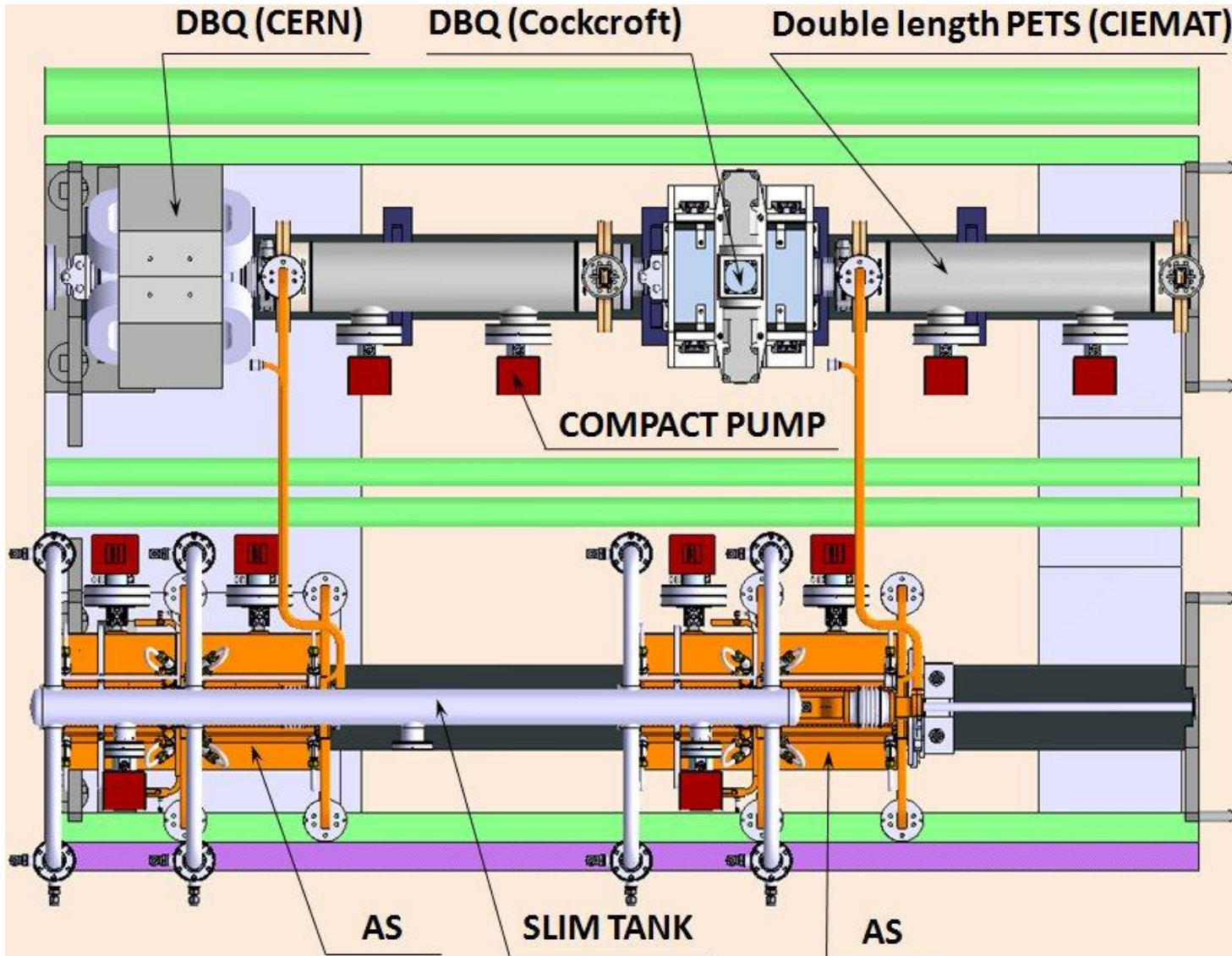
Schematic layout of CLIC Modules in CLEX



*3D model of integration
of the first CLIC Module in CLEX*

G. Riddone





- double length PETS feeding two accelerating structures
- accelerating structures with all technical systems and damping features
- First module to be ready by end of 2012

G. Riddone

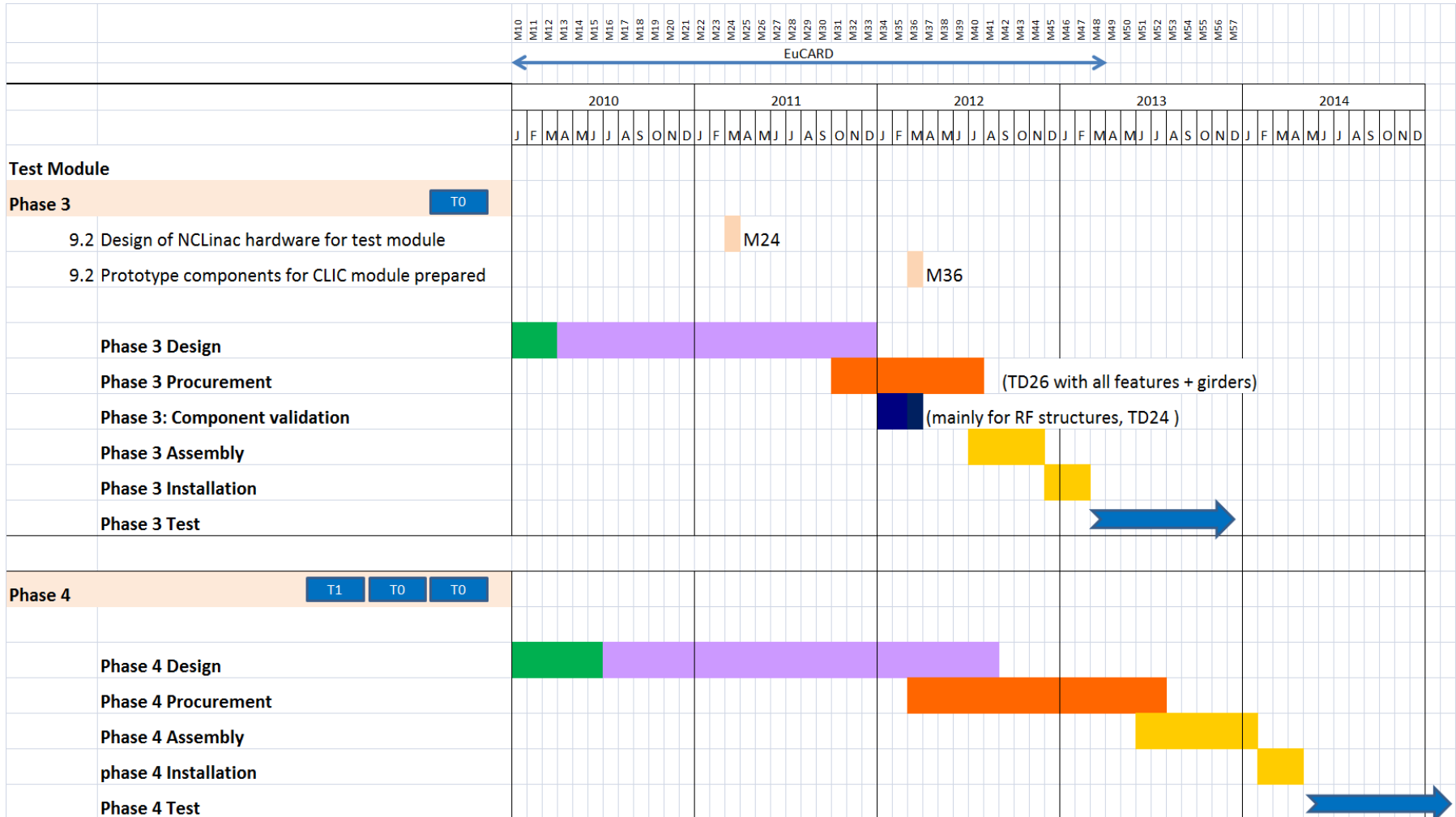




Goals:

- Test two-beam acceleration in full-fledged modules integrating all technical systems, including RF production, beam diagnostics, alignment, stabilisation and vacuum, close to their nominal parameters.
- Test BPM and wake-field monitor performance, in conjunction with active alignment system & stabilization, in an accelerator environment.
- Force construction/industrialization of “real” components – including ancillaries –, which can be used in accelerator environment.
- Check RF network phase stability with beam
- Vacuum system performance, both static and dynamics with RF
- Cooling system, especially dynamics due to beam loss and power flow changes
- Validation of assembly, transport, activation, operation, maintenance etc.





G. Riddone





WP: CTF3-004 Two-Beam module string		Purpose/Objectives/Goals: Understand behaviour and limitations of a few generations of CLIC two-beam modules in a real accelerator environment testing them with beam (performance, cost)			Deliverables		Schedule	
First phase	Test behaviour of a single complete Two-Beam Module.	One Two-Beam Module type 1 installed and tested in CTF3 M budget: 0.5 MCHF			2013 – 1Q			
Second phase	Test behaviour of a module string with a minimum number of interconnects.	Two-Beam Module string (type 101) installed and tested in CTF3 M budget: 0.75 MCHF			2014 – 1Q			
Third phase	Test behaviour of a module string, new generation.	Two-Beam Module string, new generation (3 modules) M budget: 0.75 MCHF			Modules: 2016 – 1Q			
Operation	Provide operational support	Provide operational support M budget: 1 MCHF			2012 to 2016			
Link to other WPs/activities: This WP is linked to WP CTC-004 – only installation/operation budget foreseen								
Lead collaborator(s): Uppsala, IRFU/Saclay, CERN: BE/RF, BE/BI, BE/ABP, BE/OP								
Resources:	2011	2012	2013	2014	2015	2016	Total	
Material (kCHF):		500	700	700	600	500	3000	
Personnel (FTE):		3	3	3	3	3	15	
Resources comment: Only resources for installation/integration/services/running in CTF3 are accounted for here. Resources for module construction in CTC-004								

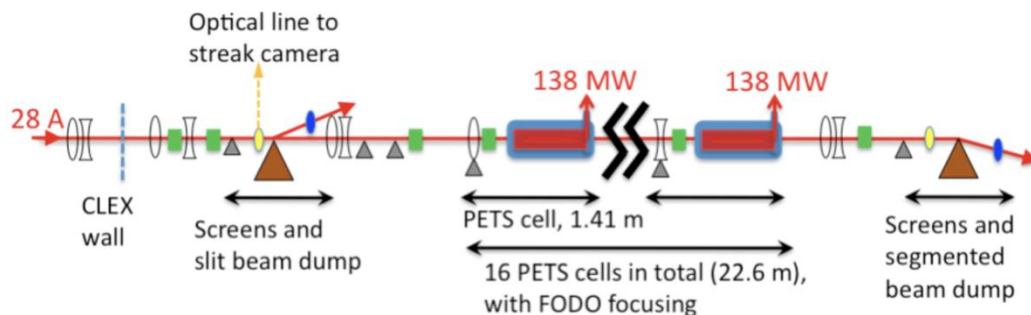
Other comments: total CTF3 manpower (2012) 31 FTE, 30 only CERN in 2011.



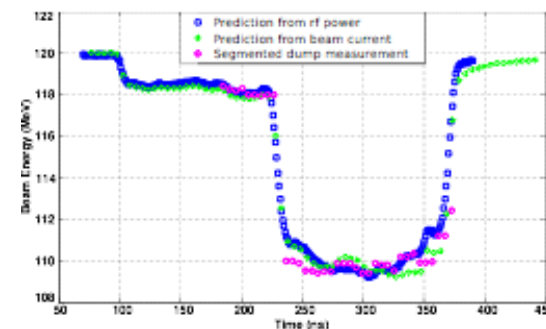


CTF3 : Decelerator Test Beam Line and Two Beam Modules

- *We have performed extensive studies of beam physics and instability studies of heavily decelerated electron beams*

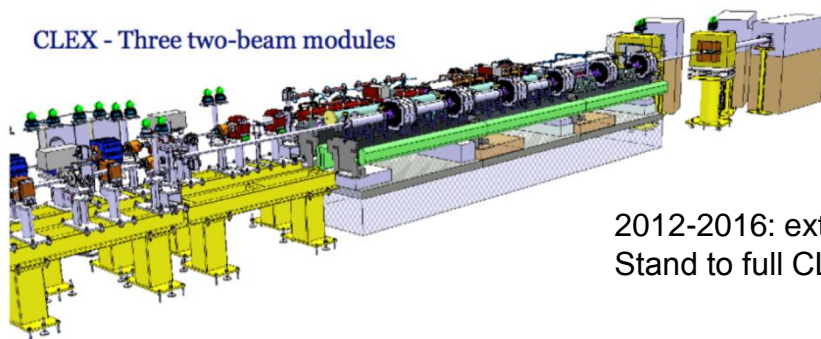


The Test Beam Line (TBL)



- *We plan to follow the experimental verification in the decelerator TBL until the completion of the program as well, as the verification of drive beam transport in the two beam*

CLEX - Three two-beam modules



CTF3-003/CTF3-004

2012-2016: extension of the Two-beam Test Stand to full CLIC modules (1, 3, N ...)

- *This includes operational and analysis support for the two experiments. See also talk by Uppsala/NorduCLIC and HIP/NorduCLIC on TBM*

