AB-ABP-CC3 activities / ABP group meeting, 1 June 2007

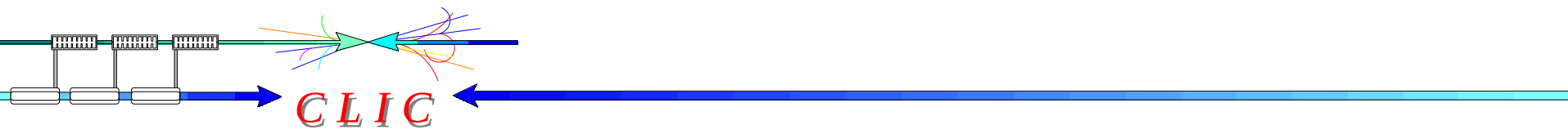
CC3, new section grouping all CLIC and CTF3 related activities in ABP

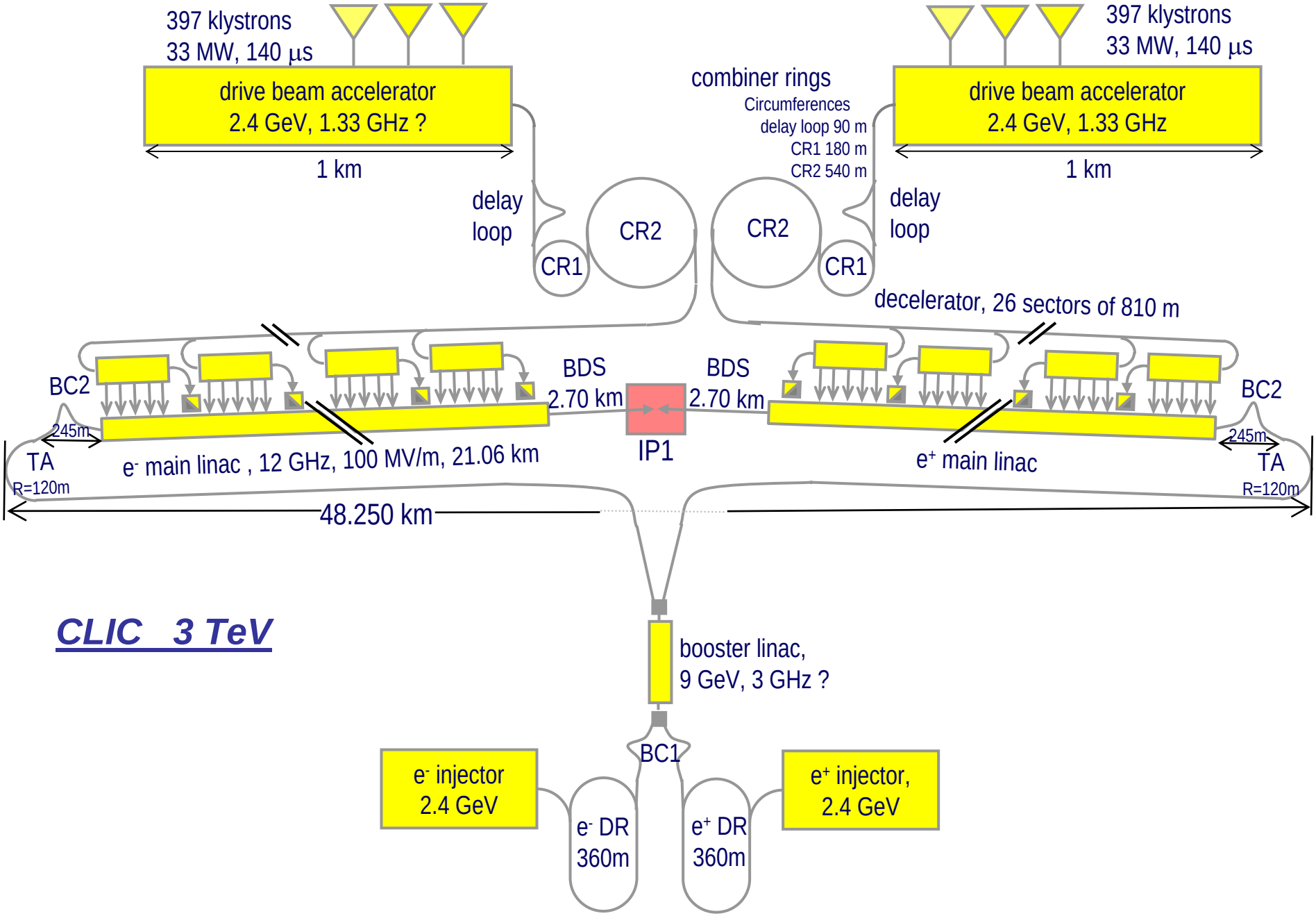
CC3 responsibilities:

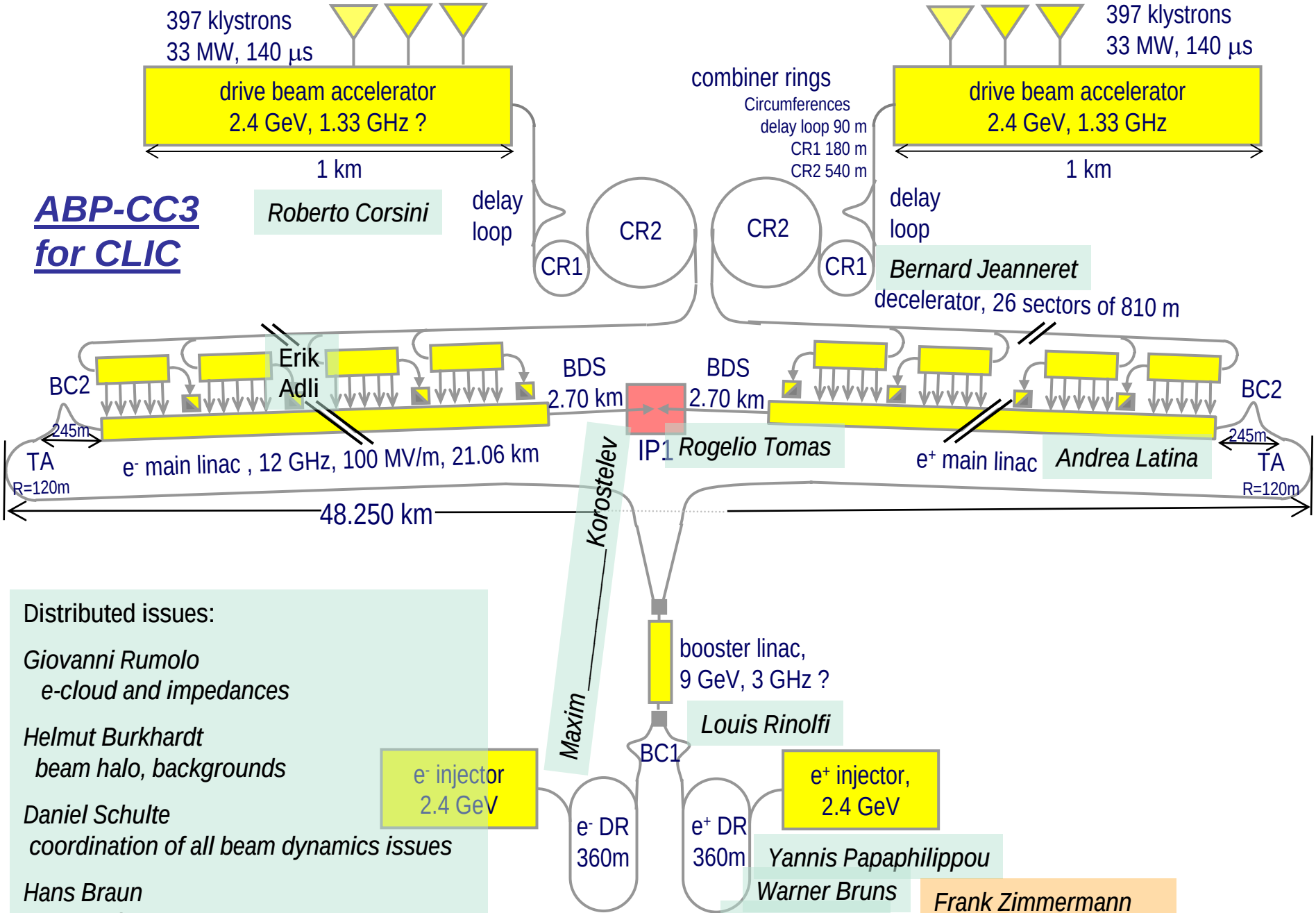
- CLIC & CTF3 beam dynamics
- CTF3 design, commissioning and operation
- CTF3 installation coordination
- CERN FP6-EUROTeV activities
- Management of CERN contributions to FP6-EUROTeV and ELAN

CC3 contributes to:

- CLIC design
- Specifications for equipment development for CLIC and CTF3
- CLIC study management
- CTF3 project management
- CLIC cost estimate
- Technical coordination with CTF3 collaborating institutes




397 klystrons
33 MW, 140 μs
drive beam accelerator
2.4 GeV, 1.33 GHz ?
1 km
combiner rings
Circumferences
delay loop 90 m
CR1 180 m
CR2 540 m
397 klystrons
33 MW, 140 μs
drive beam accelerator
2.4 GeV, 1.33 GHz
1 km
delay
loop
CR2
CR1
CR2
CR1
delay
loop
decelerator, 26 sectors of 810 m
BC2
245m
TA
R=120m
BDS
2.70 km
BDS
2.70 km
IP1
e- main linac , 12 GHz, 100 MV/m, 21.06 km
e+ main linac
BC2
245m
TA
R=120m
48.250 km
CLIC 3 TeV
booster linac,
9 GeV, 3 GHz ?
BC1
e- injector
2.4 GeV
e- DR
360m
e+ DR
360m
e+ injector,
2.4 GeV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ABP-CC3 for CLIC
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e+ main linac
Andrea Latina
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Korostelev
Maxim
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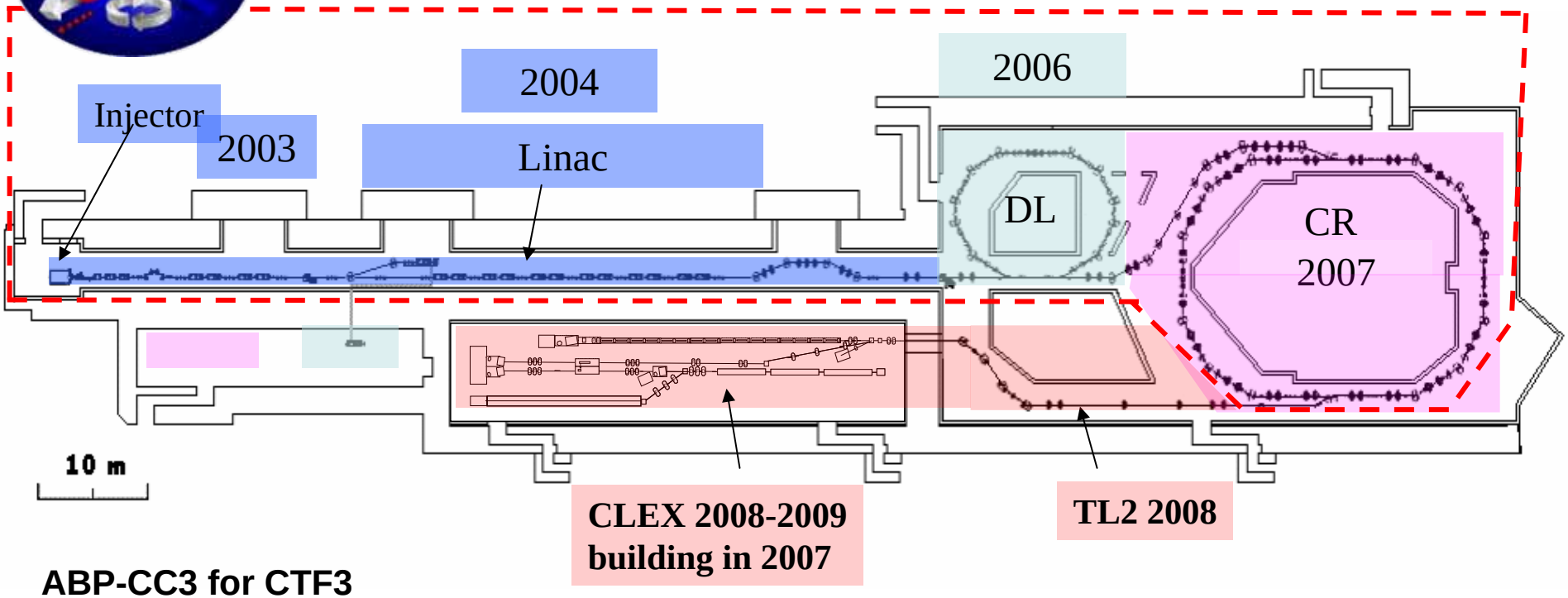
360m
e+ DR
360m
e+ injector,
2.4 GeV
Yannis Papaphilippou
Warner Bruns
Michel Martini
Distributed issues:
Giovanni Rumolo
e-cloud and impedances
Helmut Burkhardt
beam halo, backgrounds
Daniel Schulte
coordination of all beam dynamics issues
Hans Braun
cost estimate
Frank Zimmermann
out of quota know-how input

commissioned with beam

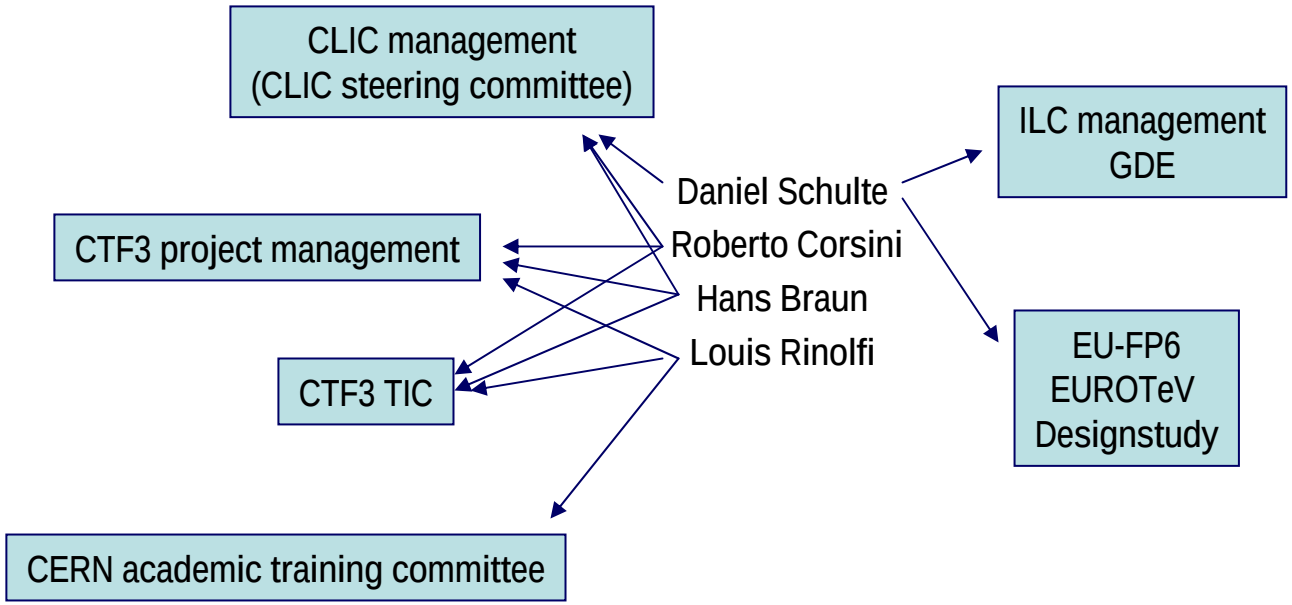


ABP-CC3 for CTF3

Roberto Corsini
Peter Urschütz
Hans Braun
Erik Adli
Bernard Jeanneret
Hamed Shaker
Louis Rinolfi
Daniel Schulte

- Commissioning of new beamline components
- Beam experiments
- Definition and specifications for new equipment and buildings
- Beam dynamics, optics & collective effects
- Technical coordination within CERN and with collaborations

Committees…


CLIC management
(CLIC steering committee)
ILC management
GDE
Daniel Schulte
Roberto Corsini
Hans Braun
Louis Rinolfi
CTF3 project management
CTF3 TIC
EU-FP6
EUROTeV
Designstudy
CERN academic training committee

Some 2006 highlights of ABP/CLIC (pre CC3 era)

CTF3

- Delay loop successfully commissioned and beam current multiplication by factor 2 demonstrated
- TL1 successfully commissioned
- Experimental demonstration of 96% RF to beam efficiency
- Routine beam operation for 30 GHz RF power production established
- Specifications for new CLEX building completed and construction launched (Building delivered this month)

CLIC

- First Damping ring design fulfilling CLIC requirements (and EPFL PhD Thesis requirements)
- Major improvements of beam delivery system design
- New 3D e-cloud code FACTOR2 released
- Major progress on main linac tuning procedures
- Parameter study and RF test results lead to drastic changes of global parameters
  f: 30 GHz -> 12 GHz
  G: 150 MV/m -> 100 MV/m
  L: 33km -> 48.3km

Main goals 2007

CLIC

- Adapt and optimize design and parameters of all subsystems to new global values 100MV/m,12GHz
- Prepare CLIC related FP7 proposals
- Development and consolidation of key software tools for CLIC design

Key events: MAC in June'07 and CLIC workshop in October'07

CTF3

- Commissioning and first beam experiments with combiner ring
- Assure efficient 30 GHz test program
- Prepare installation of TL2 and CLEX beamlines for 07/08 shutdown
- Keep the activities of 20 collaborating institutions coherent

Key event: Yearly collaboration meeting in January

EUROTeV

Fullfill commitments of ILPS=Integrated Luminosity Performance Studies workpackage

- Analysis of the performance obtained by tuning, using realistic assumptions for the static and dynamic imperfections, critical study for all LC.
- Study of electron clouds, which is a very critical problem in all linear colliders damping rings
- Build-up of beam halo is a concern for all linear colliders

First beam circulating in CTF3 combiner ring