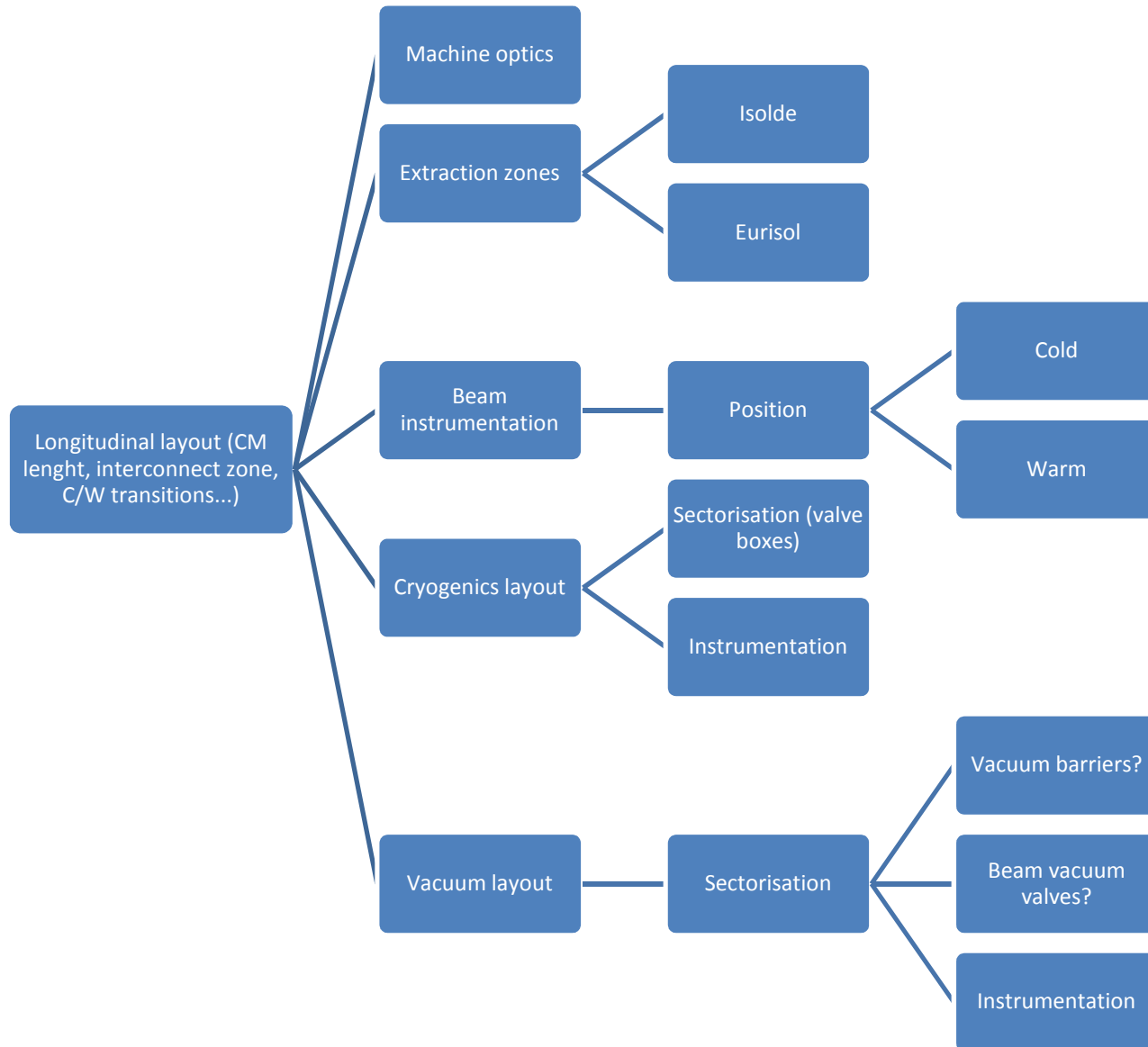


SPL cryomodule general parameters/design *(relevant to this workshop)*

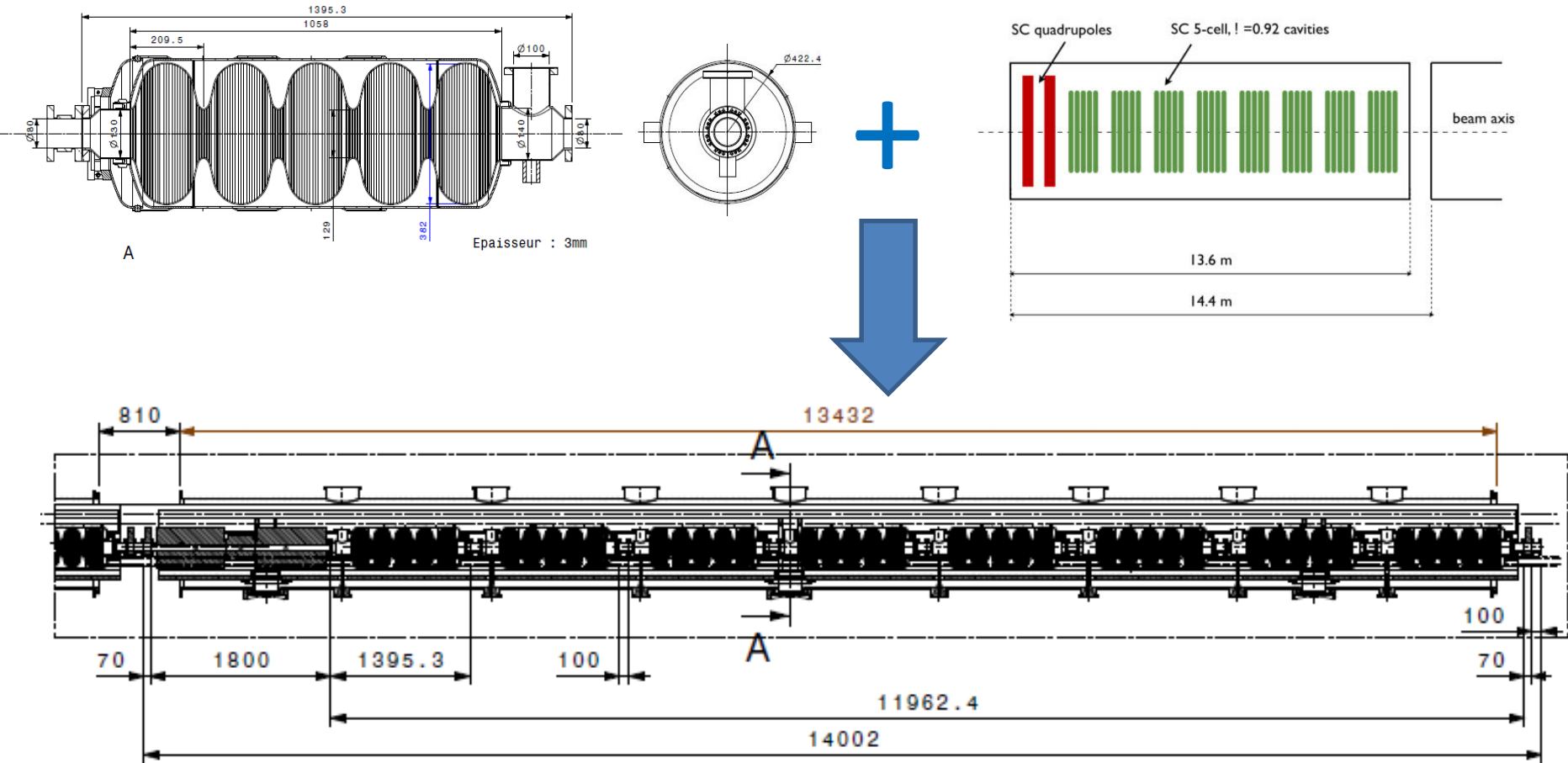
Vittorio Parma

Conceptual design: some ingredients towards a longitudinal layout

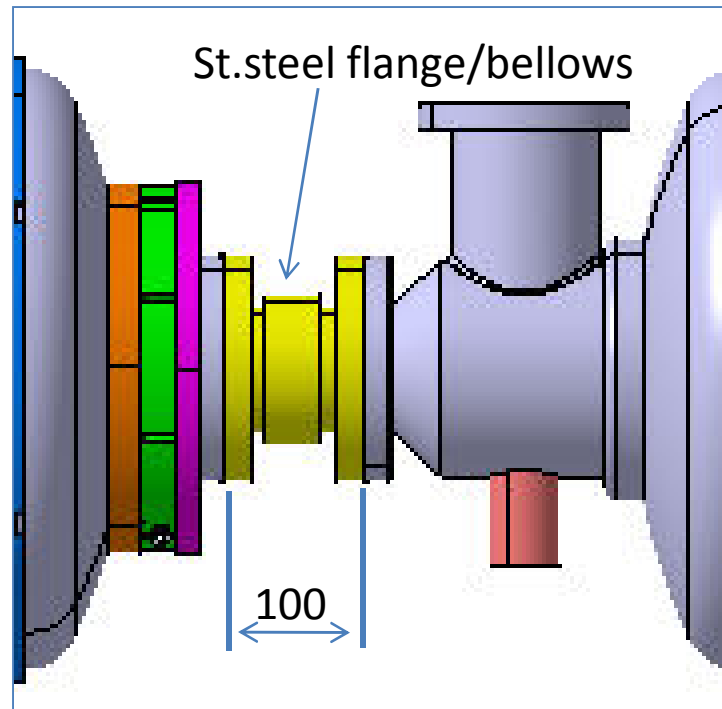
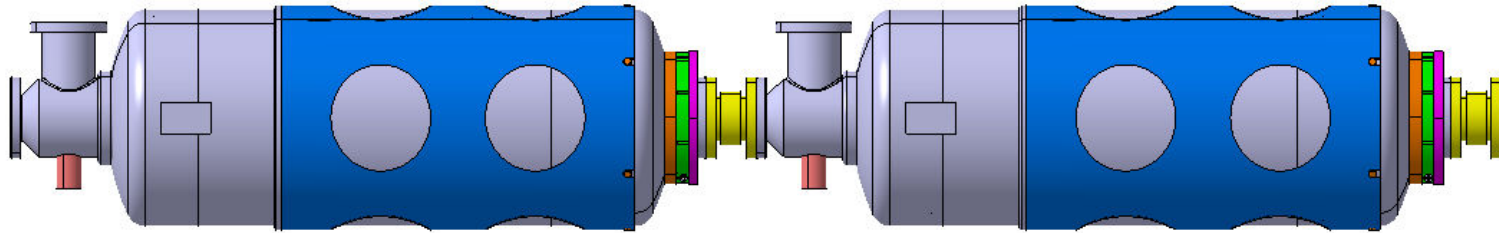


Cryo-module

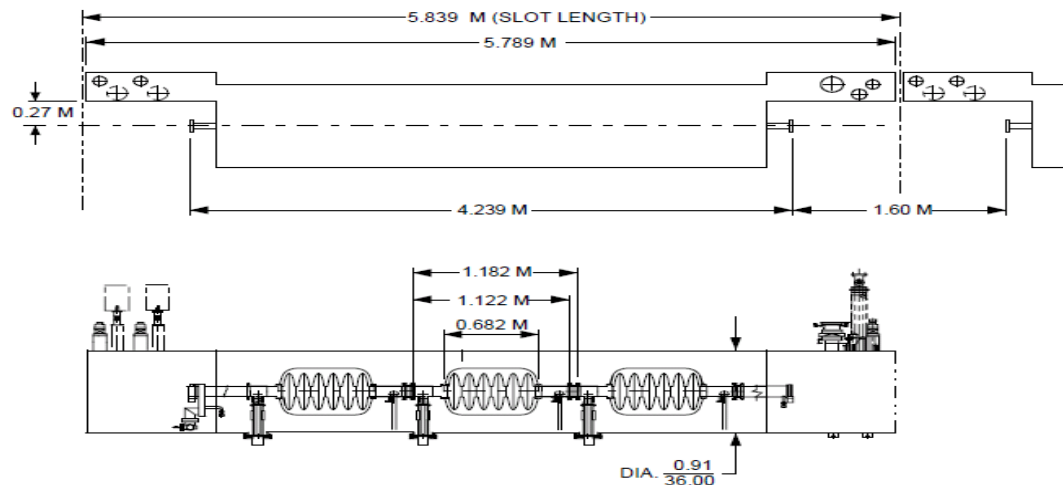
longitudinal integration study ($\beta=1$)



Inter-cavity interconnect



Linac 4



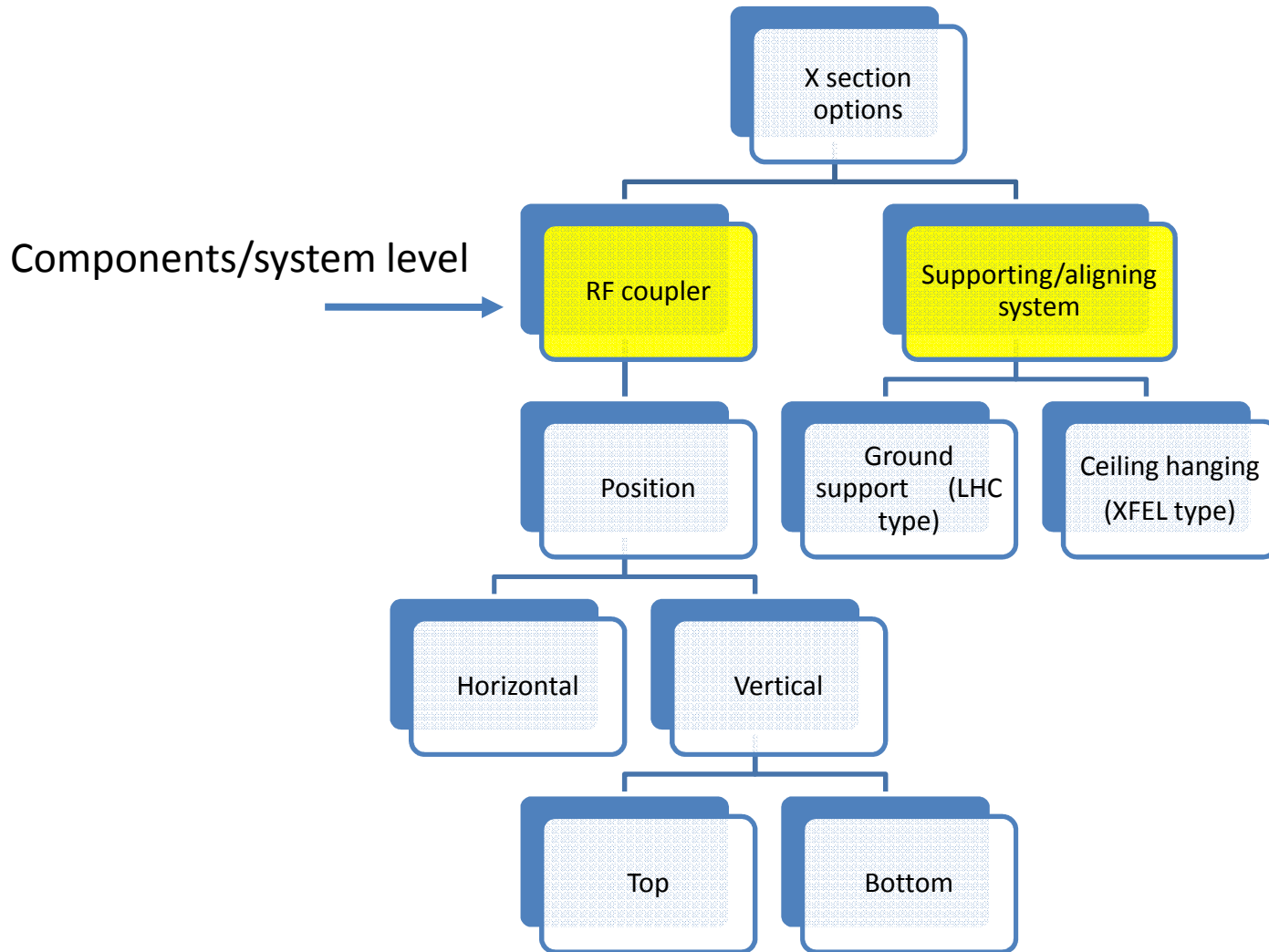
Segmented cryostat option, with cryo distribution line (SNS example)

Layout studies: continuous vs. segmented cryostat ?

	Continuous	Segmented
Pros	<ul style="list-style-type: none">- Shorter linac (in principle)- Integrated cryo distribution possible- cryo control on long strings → less controls and instrumentation- ...	<ul style="list-style-type: none">- Short intervention for repair (with sectorisation valves)- Warm magnets possible → simpler cryomodules, upgrades of focusing schemes possible- ...
Contras	<ul style="list-style-type: none">- Long intervention for repair (complete warm up)- cold quads (not strictly necessary by requirement),- “bridging” of warm zones for warm instrumentation and beam extractions- ...	<ul style="list-style-type: none">- Longer linac (in principle)- cryo distribution line necessary- ...

→ 9-10 November 2009: Workshop on Cryogenic and Vacuum Sectorisations of the SPL at CERN

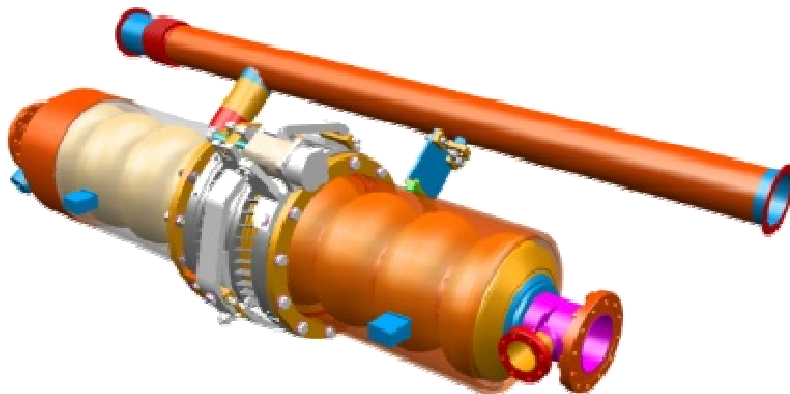
Conceptual design: X section options under study



Interfaces

dressed cavity to cryomodule

Item/function	Interface need	Input
Supporting/sliding system	Mechanical interface	depends on cryo-module design
Bi-phase pipe connection	Size, position, material	cryogenic cooling of dynamic HL, He vessel & cryo-module design
He filling line	Size, connection type (flanged? welded?) bottom position,	Cool-down/warm-up, cryomodule assembly
RF Coupler	Mechanical interface	RF coupler and cryo-module design
Tuner (CEA design)	Integration space, feedthrough	Tuner design
Operating/design pressure	Values, stability (microphonics)	Cavity/helium vessel/tuner design
Other?



ILC example

