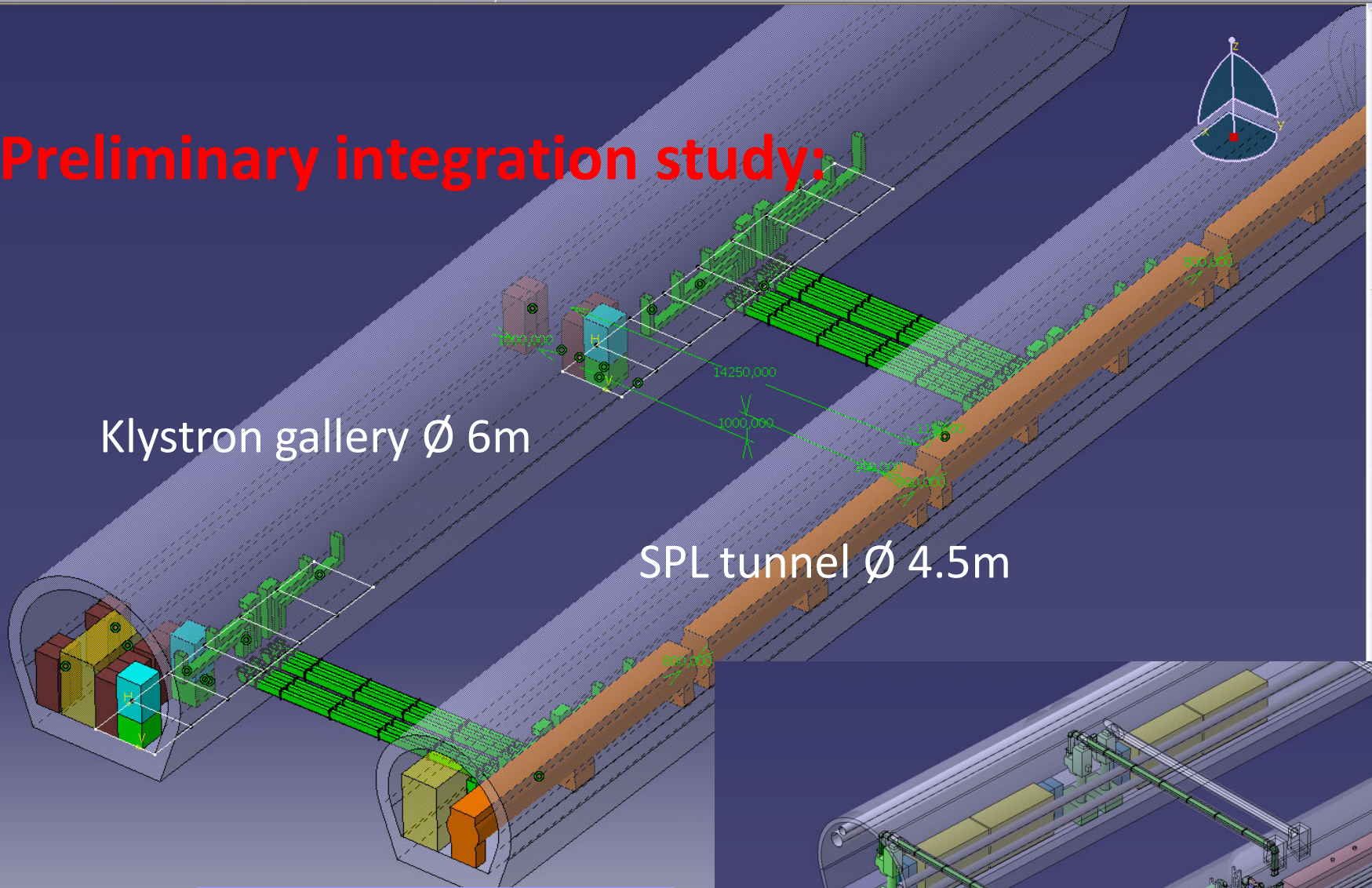


Preliminary integration study:

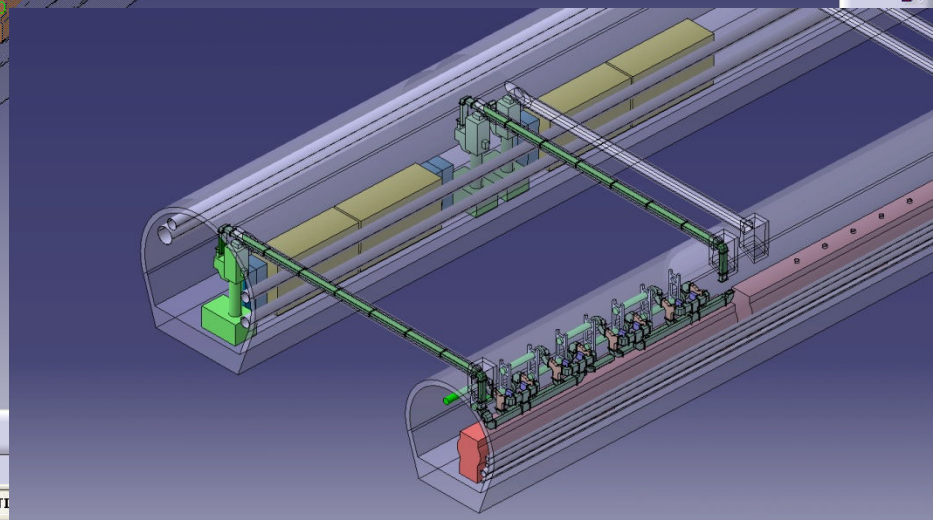
Klystron gallery \varnothing 6m

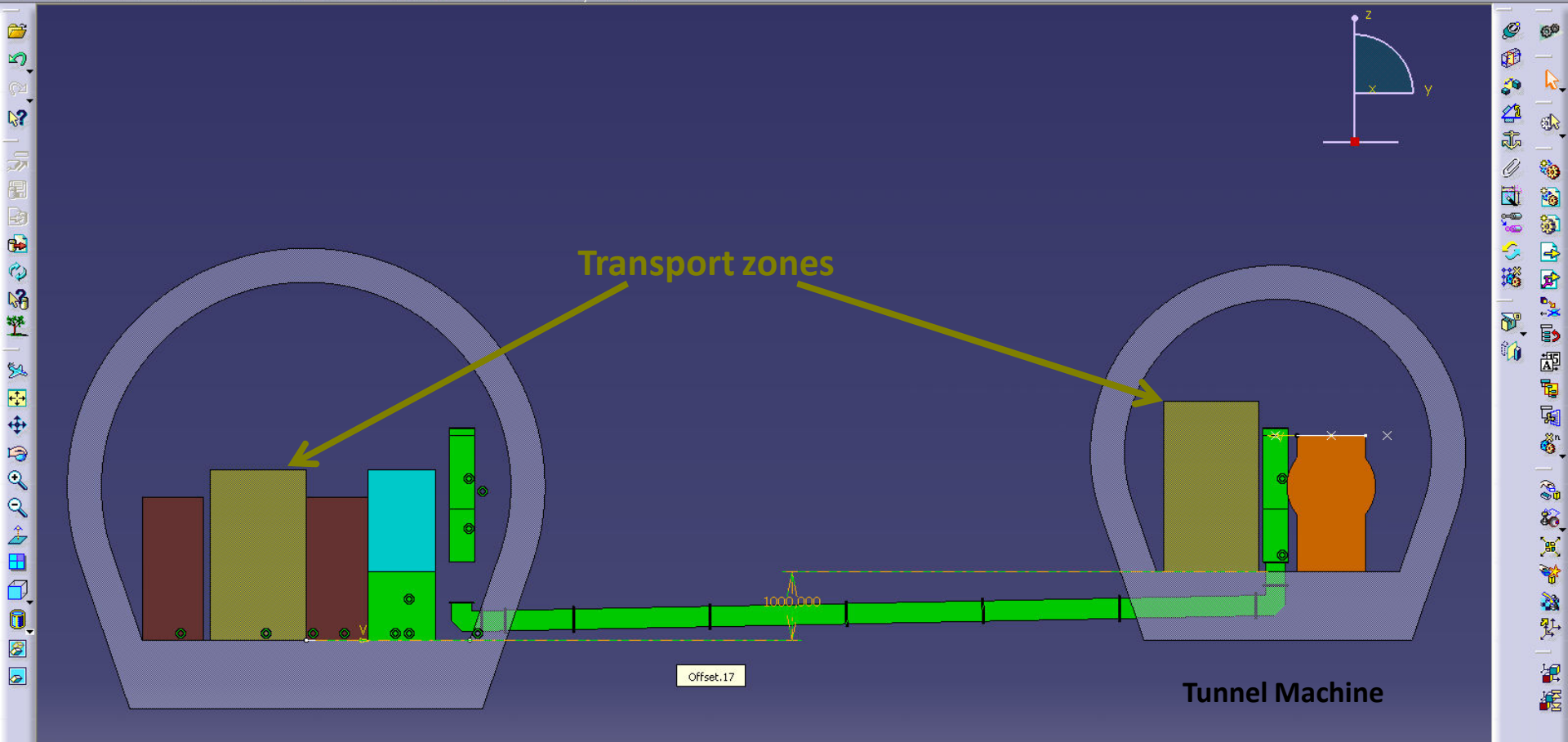
SPL tunnel \varnothing 4.5m



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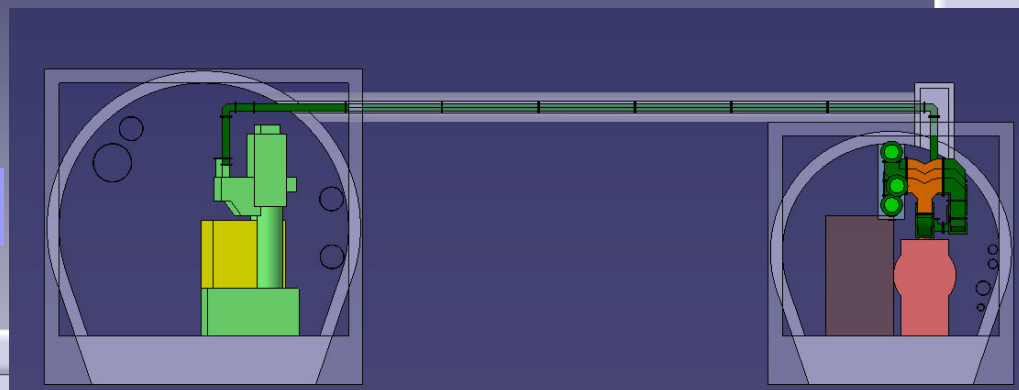
Preferred to initial model →
if we have many waveguide
between the two tunnels

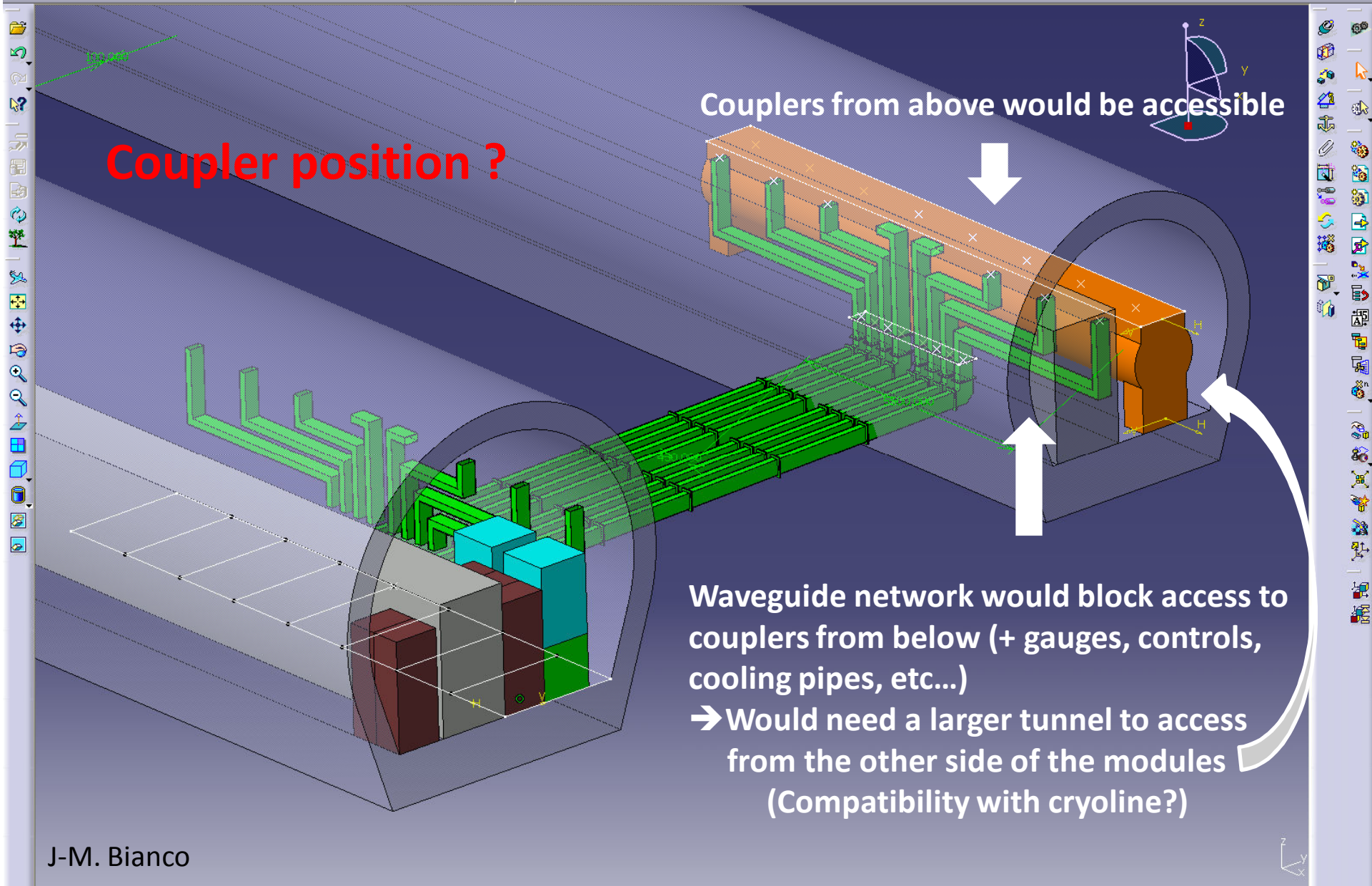




Preferred to initial model →

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Coupler position ?

Couplers from above would be accessible

Waveguide network would block access to couplers from below (+ gauges, controls, cooling pipes, etc...)
→ Would need a larger tunnel to access from the other side of the modules (Compatibility with cryoline?)

J-M. Bianco

Content of the klystron gallery ?

Maximum space available per cavity for the underground RF power source

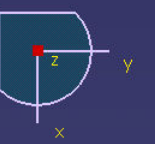
RF power generation fills a Ø6m gallery already for the LP-SPL version:
→ Opt for a Ø7m klystron gallery
→ What about the HP-SPL version?

Individual RF power unit for 1 cavity for the Low Power version ($P_{av} \sim 4$ kW)

Control

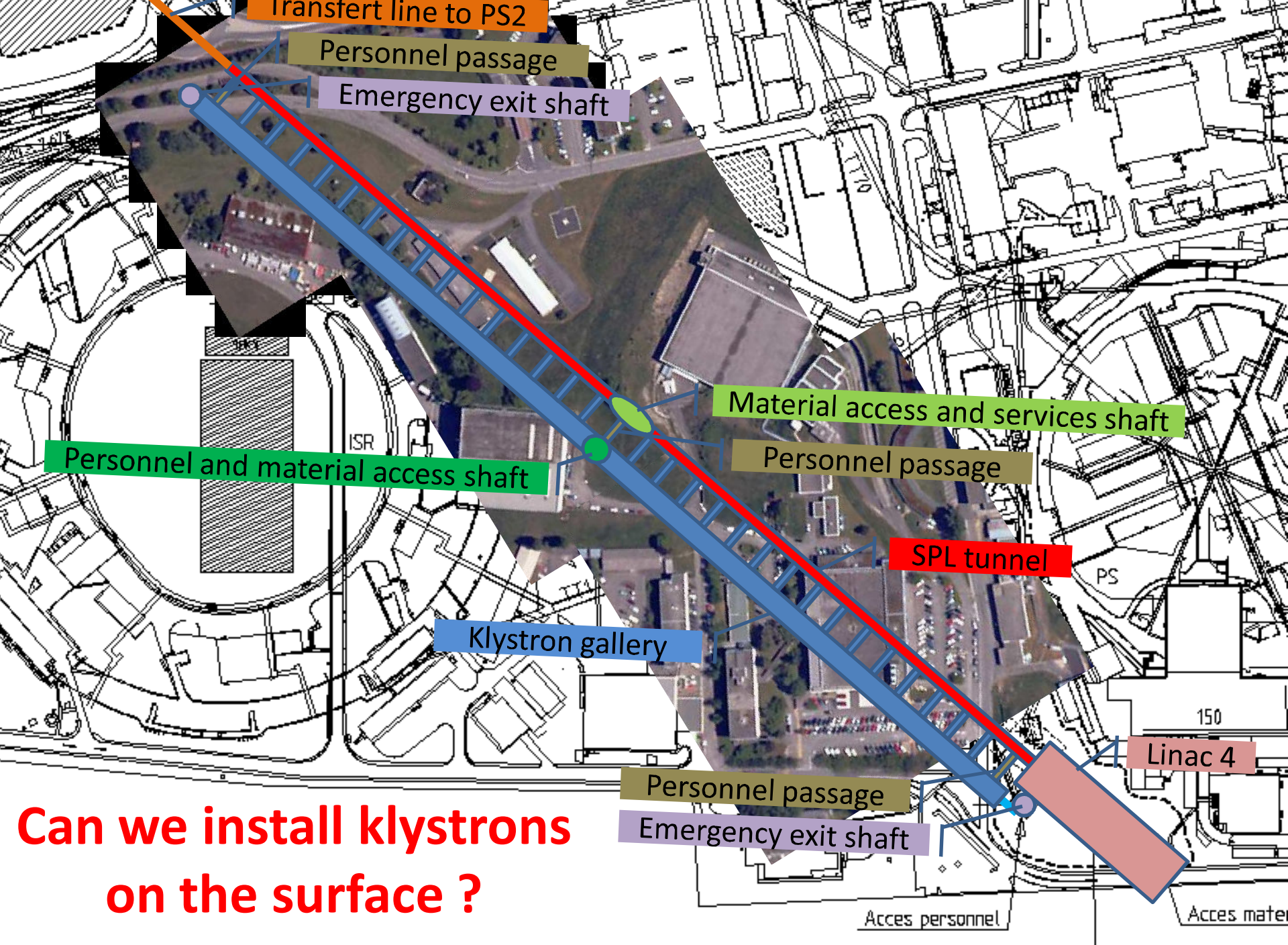
Modulator (capacitor bank + switches + pulse transformer)

Klystron

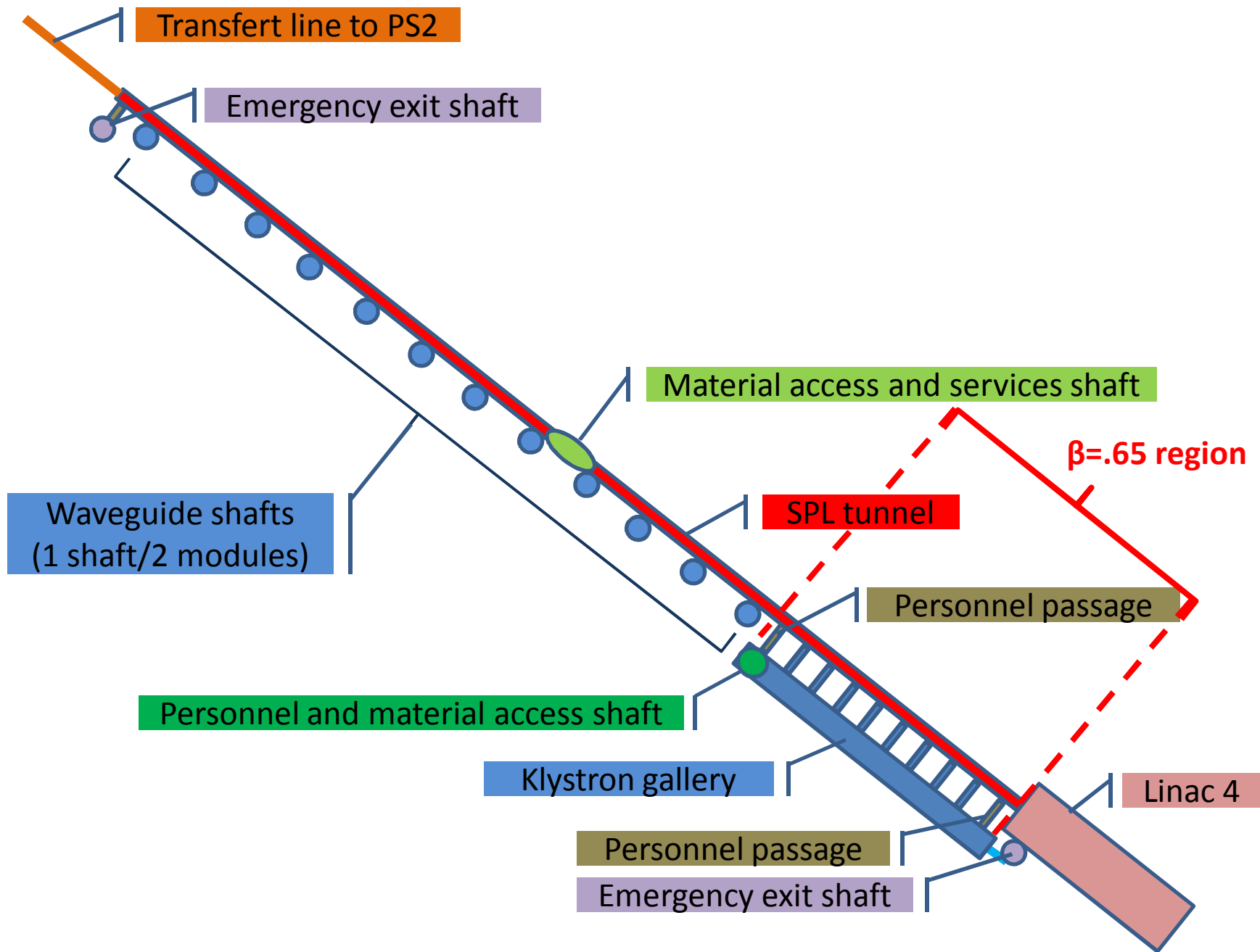


SPL
Tunnel Machine & Tunnel Services

JMB 03-07-2009



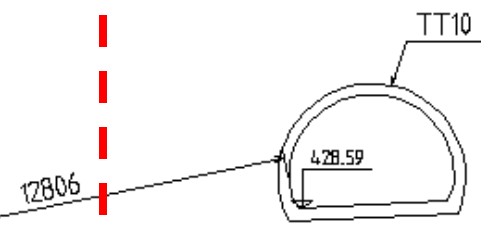
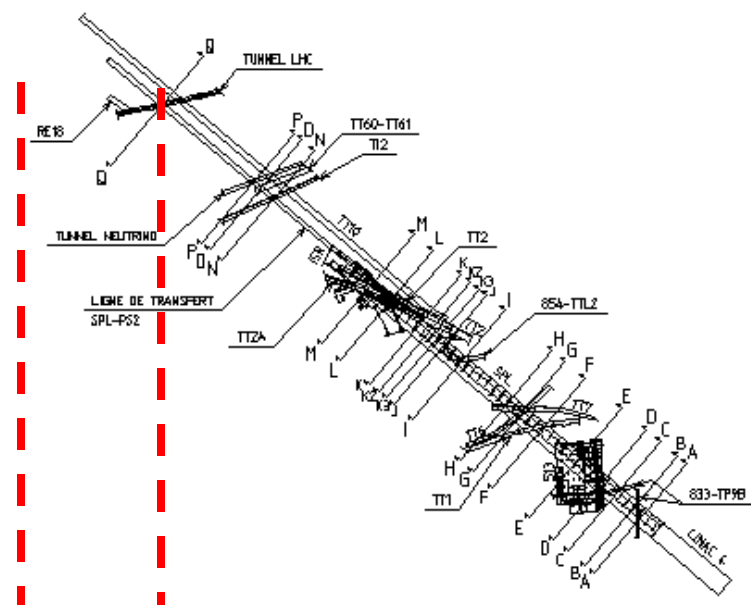
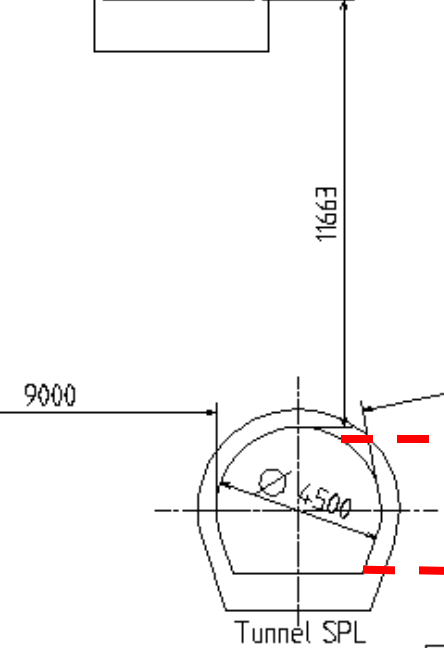
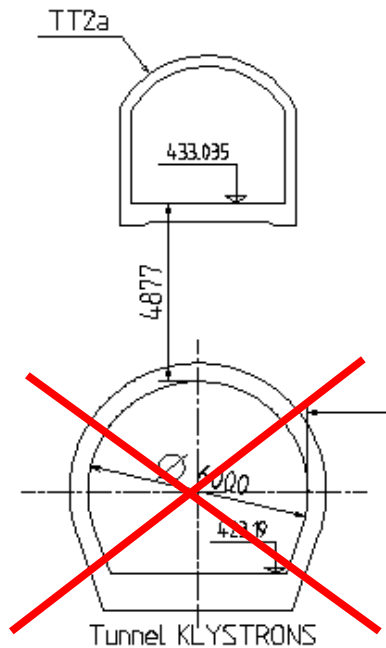
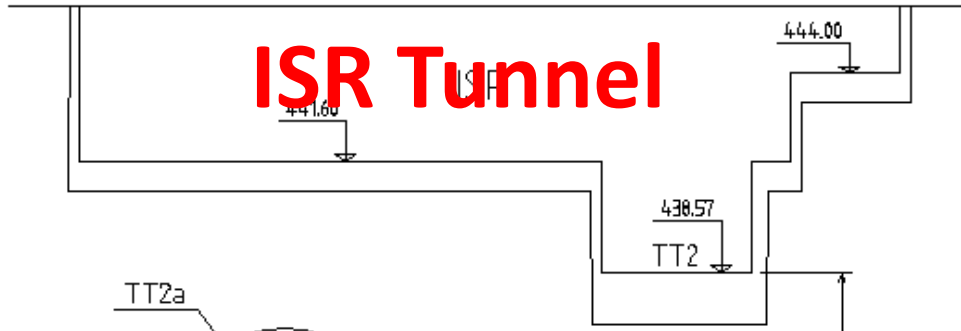
Can we install klystrons on the surface ?



DESIGN, RUGOSITY, TOLERANCES
 SELON NORME ISO
 DRAWING, RUGOSITY, TOLERANCES
 ACCORDING TO ISO STANDARD

PROJECTION

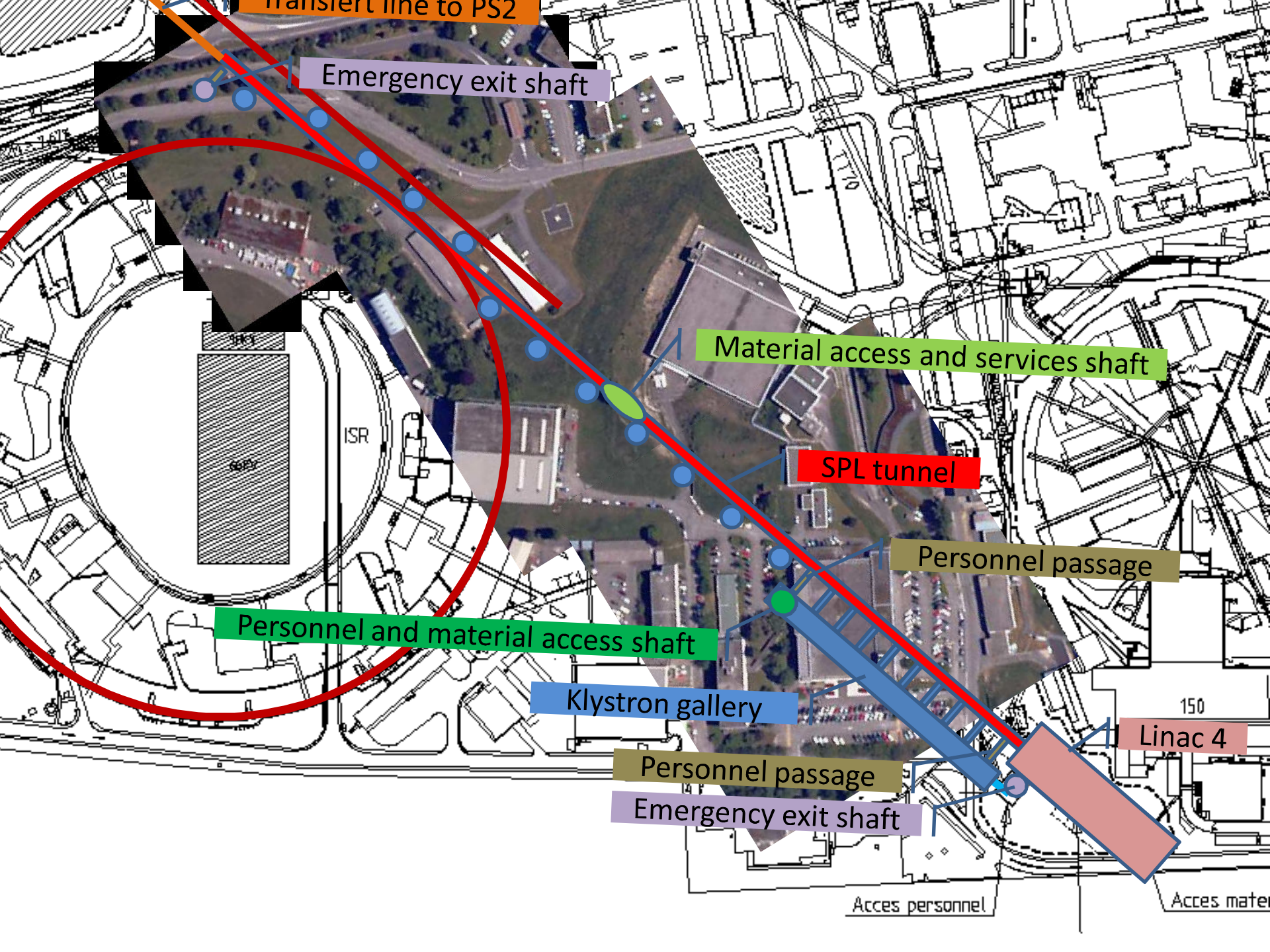

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Coupe M-M - TT2a ISR TT2 TT10
 410.0 metres de la fin du Linac 4

Format A3 - Ech. 1/125e

General code for LINAC 4 and SPL SPL - CAHIER DE COUPES	ECH-ELLE SCALE	DES/DRA. A. KOSMICKI CONTROLLED M. POEHLER RELEASED L. LOPEZ-HERNAN APPROVED -	2008-03-13 2008-09-14 2008-04-08 -
	DES/DRA. A. KOSMICKI CONTROLLED M. POEHLER RELEASED L. LOPEZ-HERNAN APPROVED -		
	2008-03-13 2008-09-14 2008-04-08 -		
	-		



Transfer line to PS2

Emergency exit shaft

Material access and services shaft

SPL tunnel

Personnel passage

Personnel and material access shaft

Klystron gallery

Personnel passage

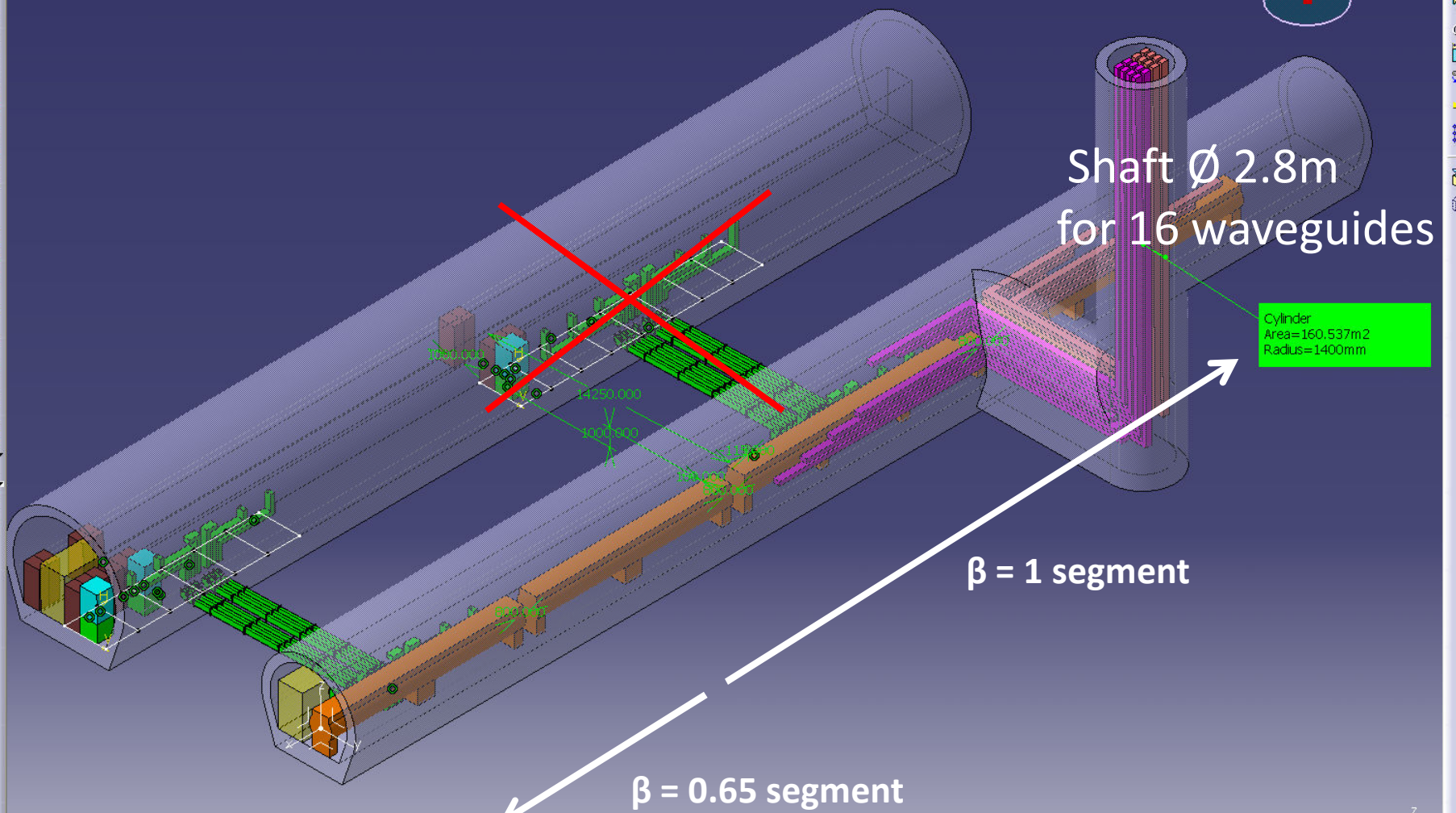
Emergency exit shaft

150
Linac 4

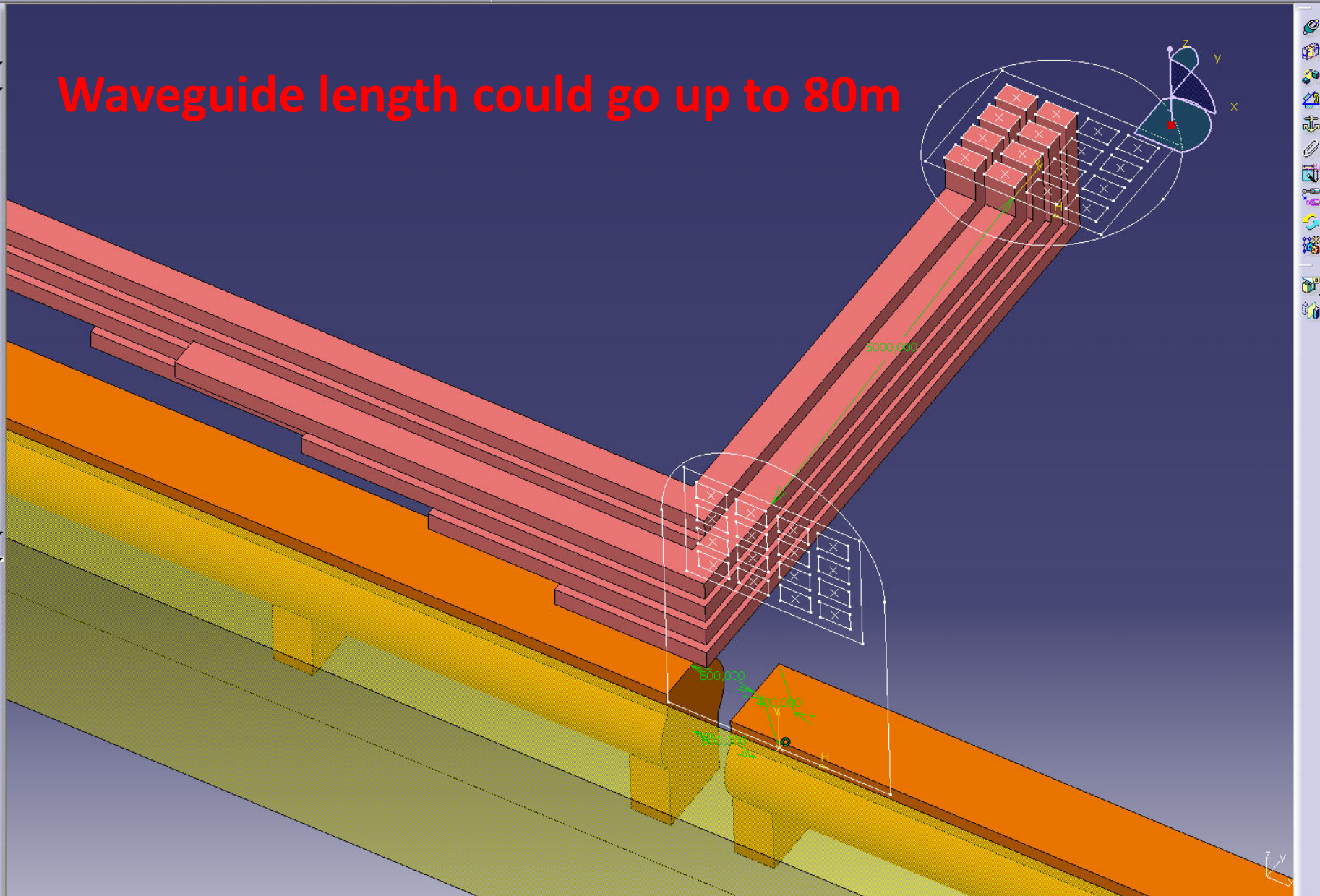
Access personnel

Access mater

Waveguide shaft and klystrons in surface buildings



Waveguide length could go up to 80m



Integration Open Questions

(some urgent questions only ...)

- ◇ Position of the couplers ?
- ◇ Will there be a separate cryoline?
- ◇ Architecture of the RF power:
 - ◇ Number of cavity per klystron ?
 - ◇ Size of the modulators for LP-SPL and HP-SPL versions ?
 - ◇ In case of one klystron for 2 cavities (or more?), where do we install the waveguide splitting?
- ◇ Can we have 80m long waveguides?