Location :	In the Cavern (near the detector)							Cables		In the Counting house				
	On detector			Off detector				Lost in the LVPS Cables (380VDC for MARATON PS)		L1 front end		L0 Muon Trigger		HV
MUON	Front end boards	LV regulators	LV cables (~10m)	IM boards	ODE boards	SB boards	LVPS for IM, ODE and SB crates	lost in the cables : ~4% of total power (considering 4mm2 cables)		L1 front end	LVPS for L1 FE	Trigger boards	PS	
Power consumption of chip [W]			(20% lost in cables considering 10 meters of 2mm2 cable and ~3A per cable)				75% efficiency				75% efficiency			
Number of chips per board														
Power consumption of board [W]	1.2	30%	20%	15	50	5	75%	28.4		100	75%	100	75%	
Number of boards	7632	9.2	12	152	148	144	10.5	4%		8	0.8	84	8.4	
Total power consumption [kW]	9.2	2.8	2.4	2.3	7.4	0.8	3.5	1.2		0.8	0.3	8.4	2.8	10.5
Cooled ?	no	no	no	yes	yes	yes	yes	no		yes	yes	yes	yes	yes
Inefficiency %	100%	100%	100%	5%	5%	5%	5%	100%		5%	5%	5%	5%	5%
cavern (detector) / counting house part %								90%	10%					
heat dissipated to air [kW]	**9.2**	2.8	2.4	0.115	0.37	0.04	0.175	1.08	0.12	0.04	0.015	0.42	0.14	0.525
heat removed by the cooling system [kW]	0	0	0	2.185	7.03	0.76	3.325	0	0	0.76	0.285	7.98	2.66	9.975
Total power dissipated to air [kW]	**16.18**								**1.26**					
Total power to be cooled with water [kW]	**13.3**								**21.66**					
	12			**14**										
Total electrical power consumption [kW]	**29.6**								**22.8**					

Not sure, to be confirmed
Big dissipation to the air !

	needed in the counting house	needed in the cavern but supplied from the counting house
Total:	**22.8 kW**	**29.6 kW**

Total power needs: **53 kW**

What might be forgotten: Other sub-system that need power….? Pumps, motors, etc…?

To dimension what TS-EL will have to provide to the sub-detectors in terms of electrical power, a 30% safety (or spare) margin should be added (in addition to what is still missing).