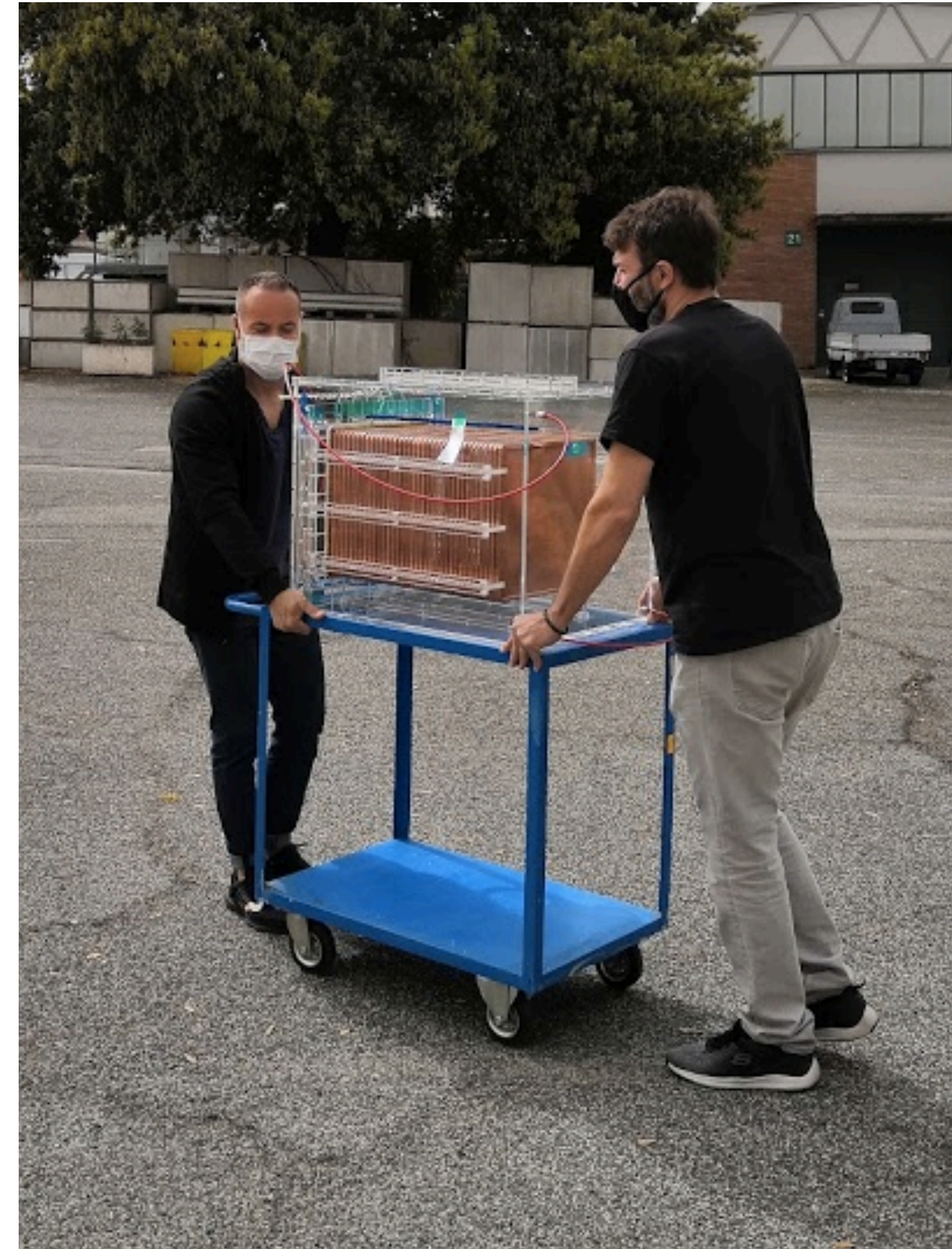


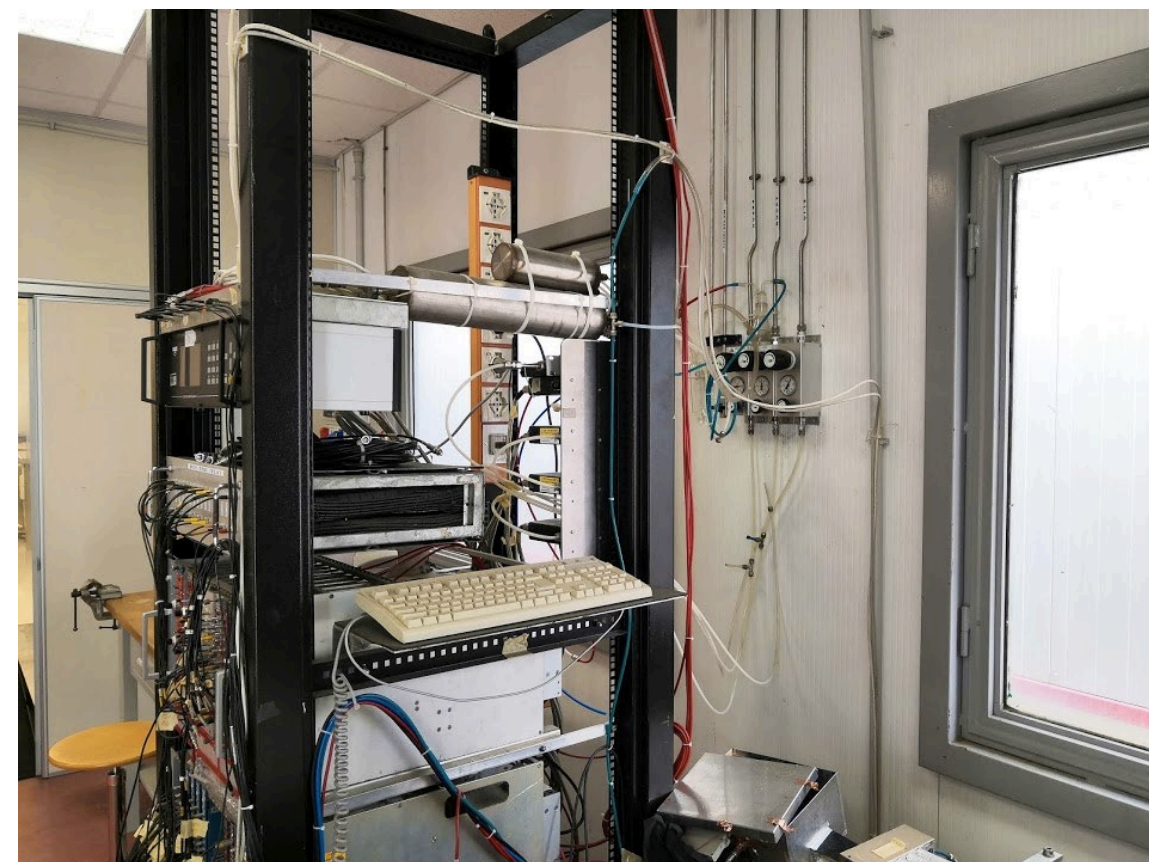
Integration - update 21/5/2020

- Building 28/48 refurbishing
- LIME assembly
- computing
- LNGS: a) baracca, b) sala F, c) Baracca+Sala F (see next)
- next 6 LNF services month schedule
- purchase gas 2 He + 2 CF4 done and delivered
- camera cooling system ready to be installed



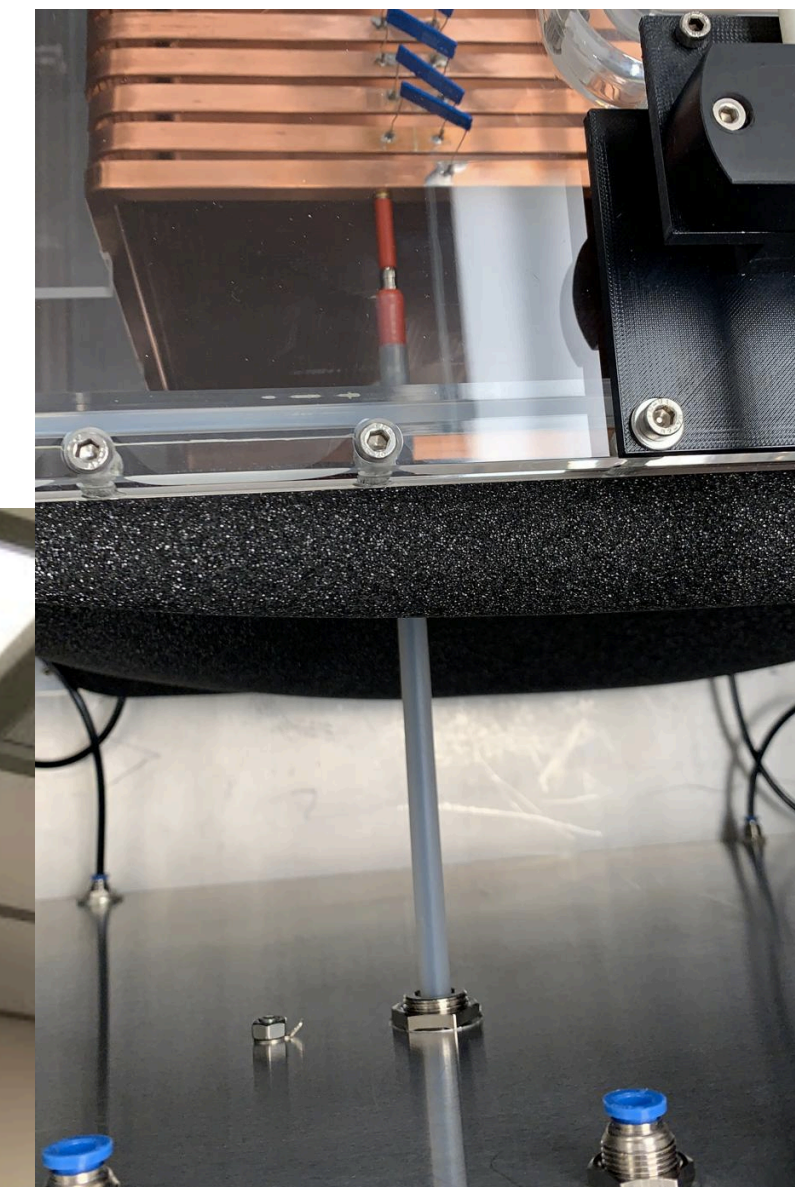
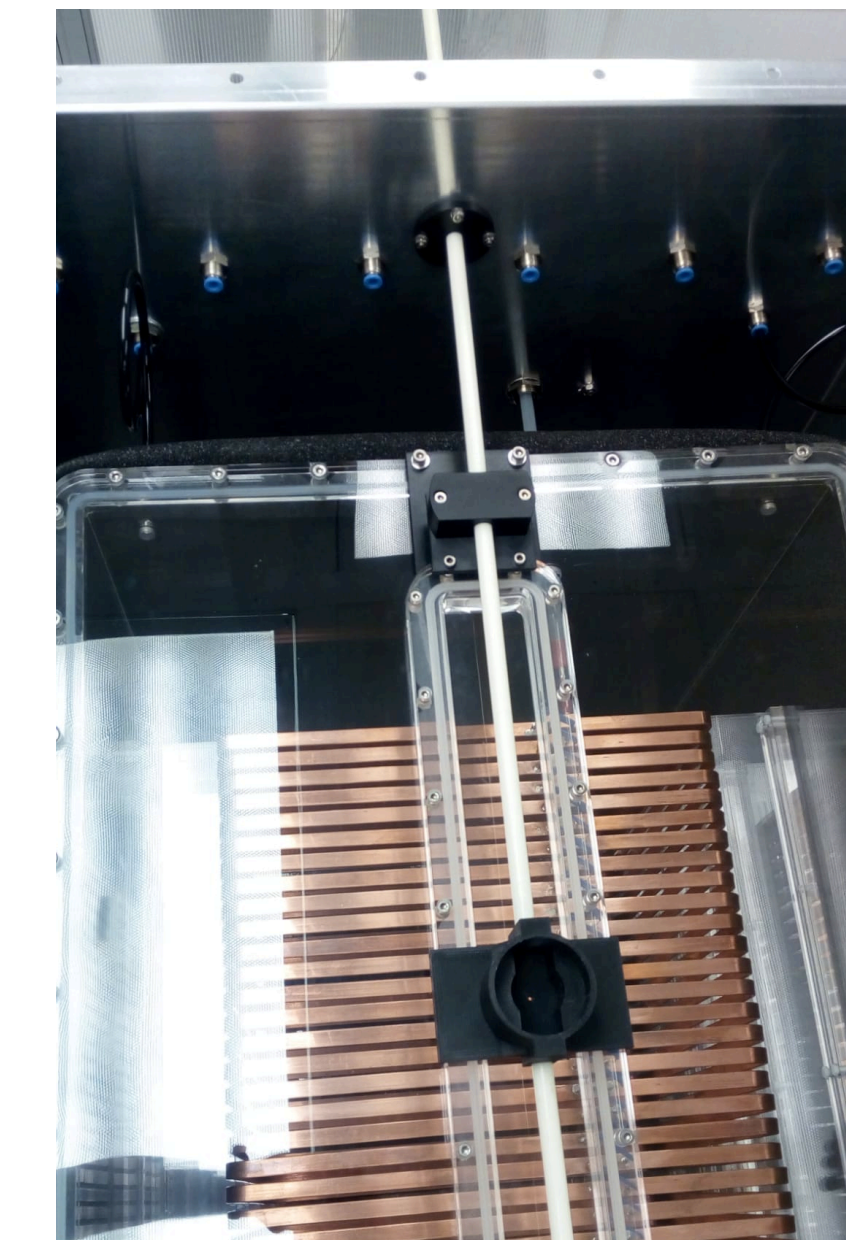
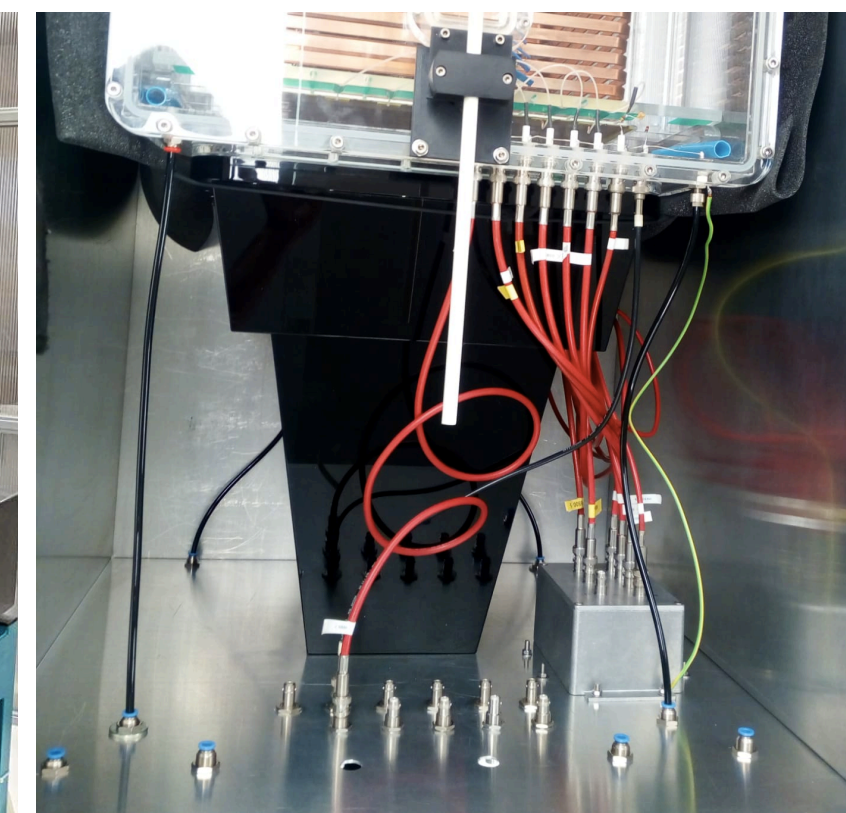
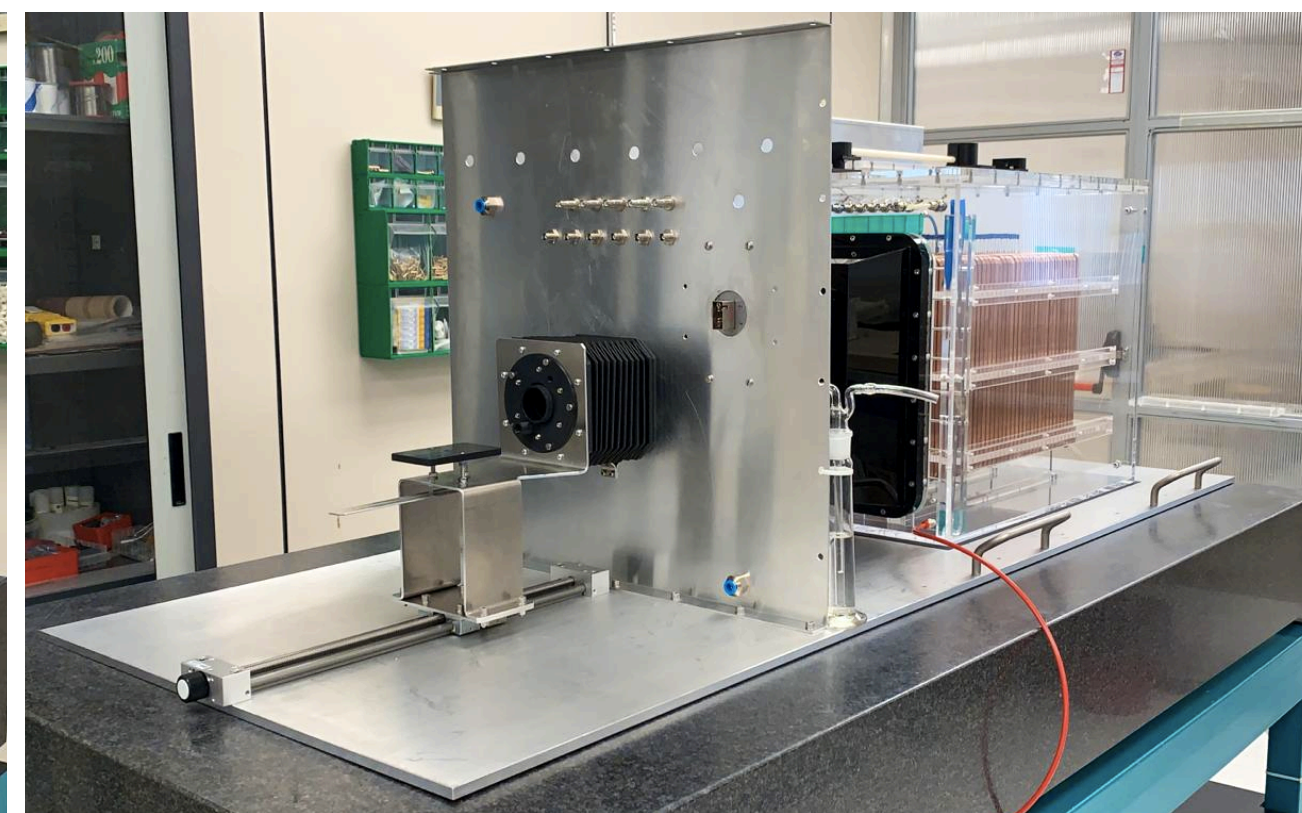
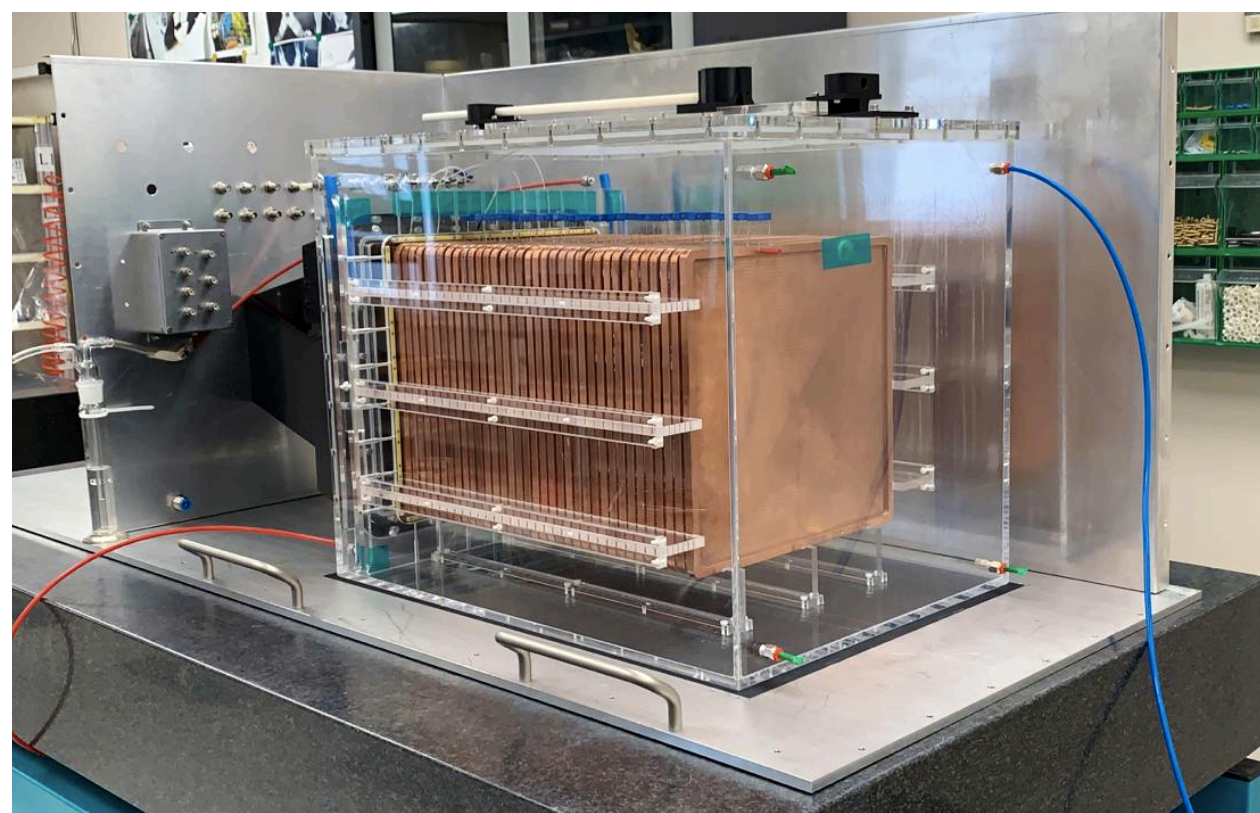
building 28 refurbishing...

- new gas distribution system completed, the mixer (test calibration etc) is under review He-CF4-SF6 + N2
- clean chamber, without the substitution of HEPA filter looks to be ISO7 (10.000!)
- clean out of building 48 (using spare materials of 28)



LIME assembly

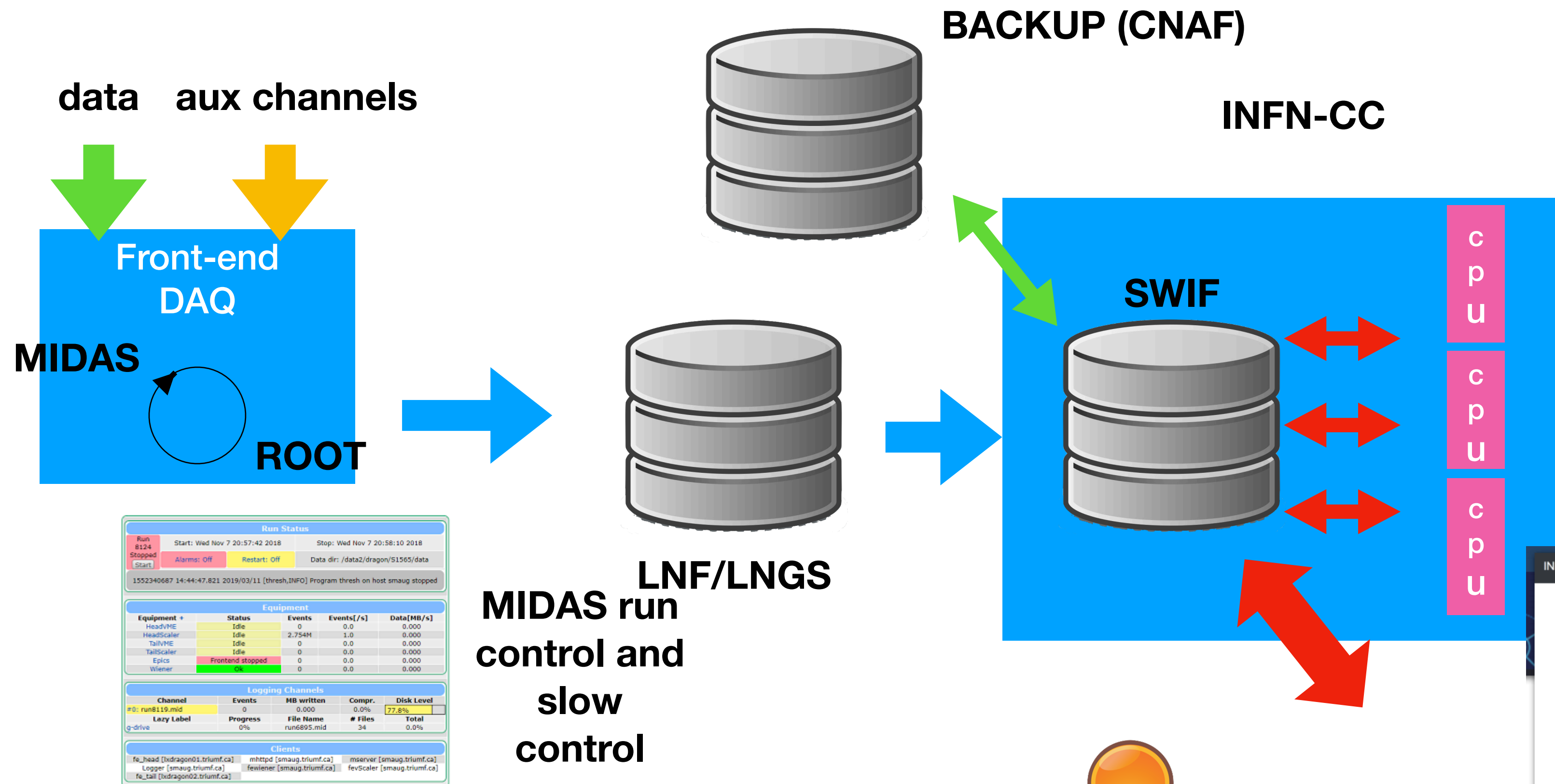
- we decide to not switch the plexiglas vessel
- some minor problem with connectors (too many ;)) but seems that we have all that we need
- ready to be close! (hv gem, field, gas...)
- a test and measurements schedule is needed



INFN-CC @ LNGS-LNF

<https://notebook.cygno.cloud.infn.it/>

JupyterHUB notebook: Python3, PyROOT, ROOT



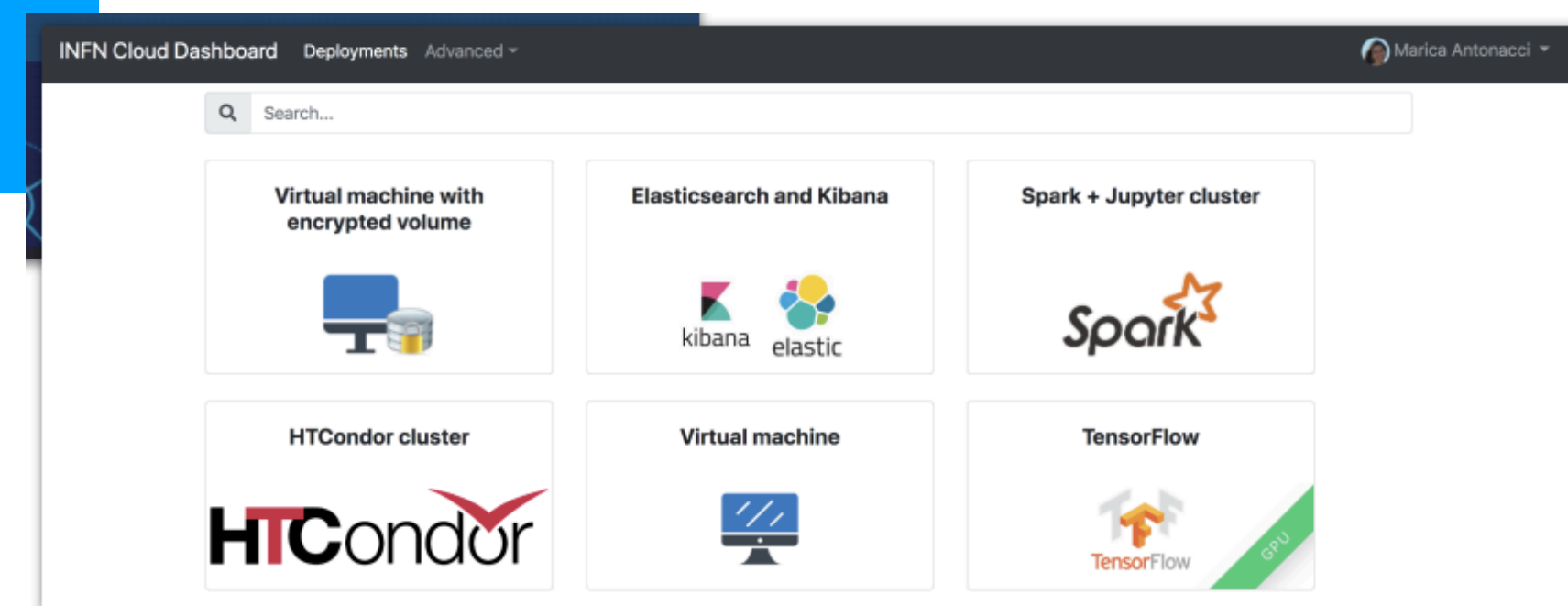
```

57
58 ellipse.set_transform(transf + ax.transData)
59 return ax.add_patch(ellipse)
60 def get_correlated_dataset(n, dependency, mu, scale):
61     latent = np.random.randn(n, 2)
62     dependent = latent.dot(dependency)
63     scaled = dependent * scale
64     scaled_with_offset = scaled + mu
65     # return x and y of the new, correlated dataset
66     return scaled_with_offset[:, 0], scaled_with_offset[:, 1]
67 np.random.seed(0)
68
69 PARAMETERS = {
70     'Positive correlation': np.array([10.85, 0.35]),
71     'Negative correlation': np.array([0.15, -0.45]),
72     'Weak correlation': np.array([0.1, -0.6]),
73     'Strong correlation': np.array([10, 0]),
74     'Weak correlation': np.array([0, 1]),
75 }
76
77
78 mu = 2, 4
79 scale = 3, 5
80
81 fig, axes = plt.subplots(1, 3, figsize=(9, 3))
82 for ax, (title, dependency) in zip(axes, PARAMETERS.items()):
83     x, y = get_correlated_dataset(800, dependency, mu, scale)
84     ax.scatter(x, y, s=0.5)
85
86     ax.axvline(c='grey', lw=1)
87     ax.axhline(c='grey', lw=1)
88
89     confidence_ellipse(x, y, ax, edgecolor='red')
90
91     ax.scatter(mu[0], mu[1], c='red', s=3)
92     ax.set_title(title)
93
94 plt.show()
    
```

AAI users authentication

Run Status				
Run	Start: Wed Nov 7 20:57:42 2018	Stop: Wed Nov 7 20:58:10 2018		
Stopped	Alarms: Off	Restart: Off	Data dir: /data2/dragon/S1565/data	
Start				
1552240687 14:44:47.821 2019/02/11 [thresh.INFO] Program thresh on host smaug stopped				
Equipment				
Equipment	Status	Events	Events[/s]	Data[MB/s]
HeadScaler	Idle	0	0.0	0.000
TailVME	Idle	2.754M	1.0	0.000
TailScaler	Idle	0	0.0	0.000
Epics	Frontend stopped	0	0.0	0.000
Wiener	Ok	0	0.0	0.000
Logging Channels				
Channel	Events	MB written	Compr.	Disk Level
0: run8119.mid	0	0.000	0.0%	77.8%
Clients				
fe_head [lvdragon01.triumf.ca]	mhttpd [smaug.triumf.ca]	msrvr [smaug.triumf.ca]		
fe_logger [smaug.triumf.ca]	felescope [smaug.triumf.ca]	fevscaler [smaug.triumf.ca]		
fe_tail [lvdragon02.triumf.ca]				

today throughput 10-100*16MB/s
tomorrow @LNGS 0.01*16MB/s



Computing request to CNAF

- swift: DATA storage, what about reconstruction and simulation repository?
- 10 TB disk space at LNGS done (see previous question)
- Purchase of CPU and LAN switch for LNGS:
 - LAN: HPE 5700 40XG 2QSFP+ Euro 2.429,46, HPE X140 40G QSFP+ LC LR4 SM Euro 1.420,64, , HPE X120 1G SFP RJ45 Euro 57,16, HPE X120 1G SFP LC SX Euro 44,82
 - CPU: Dell EMC PowerEdge R7425 (1 AMD EPYC, 64GB RAM, 2x600GB 10K RPM SAS), Processore aggiuntivo AMD EPYC 7301 2.2GHz/2.7GHz, 16C/32T, 64M Cache (155W/170W) DDR4-2400/2666, Memoria aggiuntiva Dell 64GB - 4RX4 DDR4 LRDIMM 2666MHz, Scheda 10Gb/s QLogic 41112 Dual Port 10Gb SFP+ Adapter Low Profile, 2 dischi 960GB SSD SAS Read Intensive 12Gbps 2.5in Hot-plug Drive, estensione della garanzia di ulteriori 2 anni per un costo di circa 5KEuro + IVA.
- CNAF/CLOUD 2021: 100 CPUs + 3GB/CPU + 20 TB + tape
- ROOT/GEANT/GARFIELD/Notebook..., scheduler (CONDOR), DB SQL (reconstruction & simulation logbook), ...