



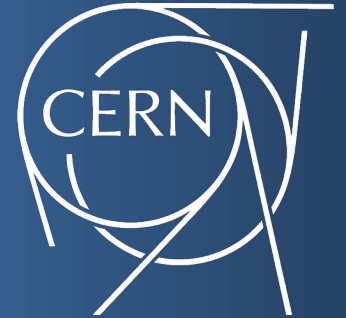
CERN, *for* General Purpose

CERN EPC Group Presentation

Focus on **E**lectrical **P**ower **G**roup

Document source

<https://edms.cern.ch/document/1739347>



EPC
Group



Conseil
Européen pour la
Recherche
Nucléaire

1954

What does mean CERN?..

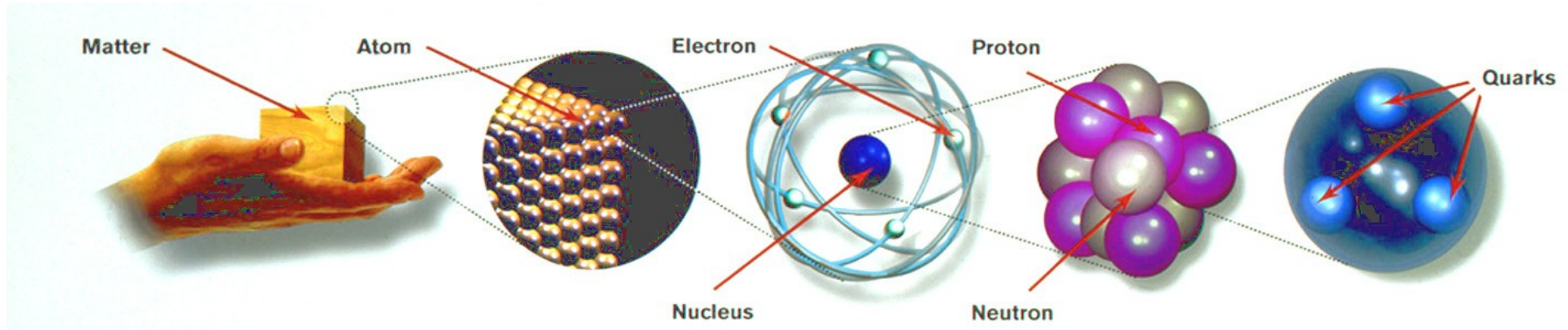


A wide & unique laboratory located close to Geneva.

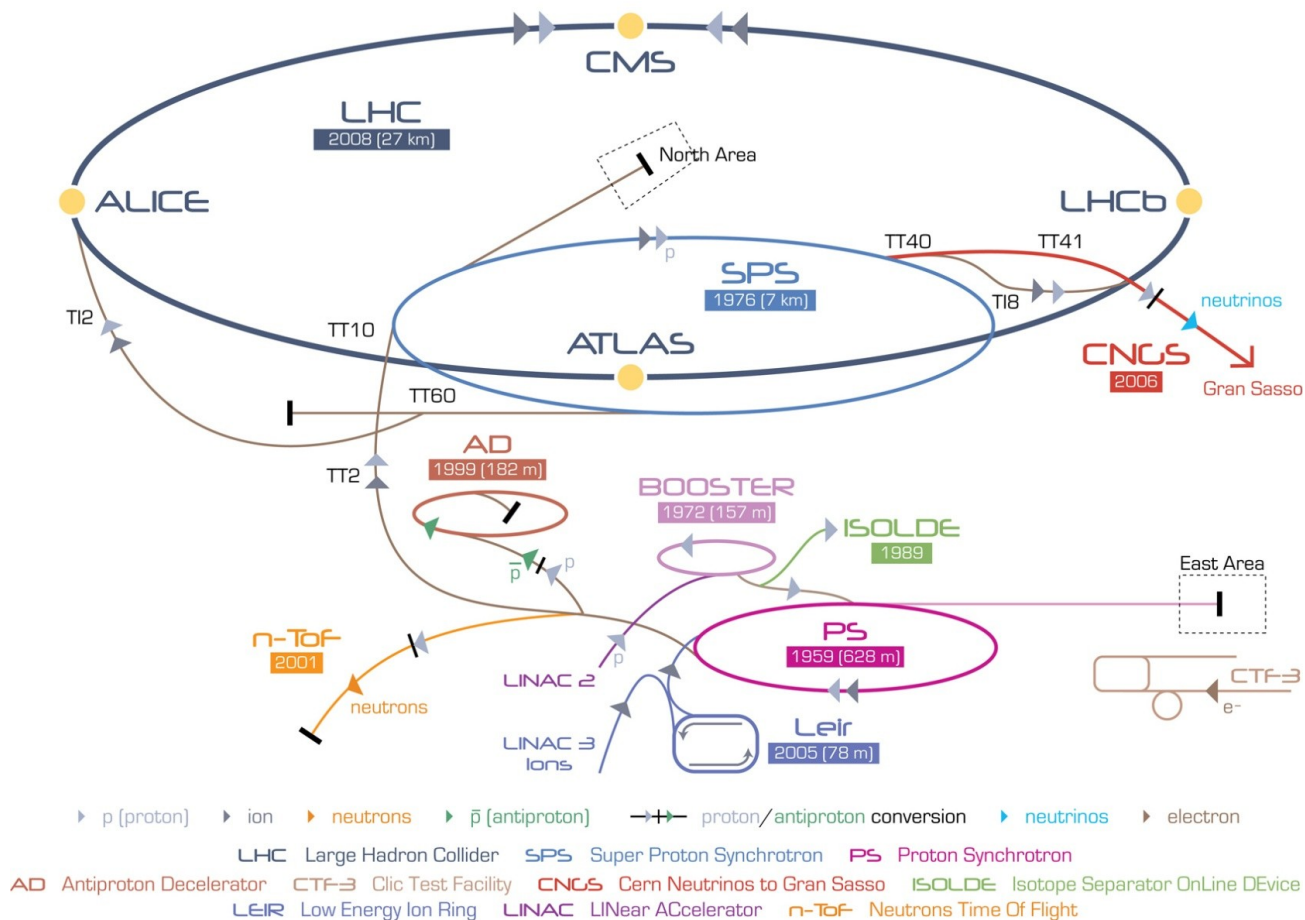
Nuclear?



European laboratory for **particle physics**



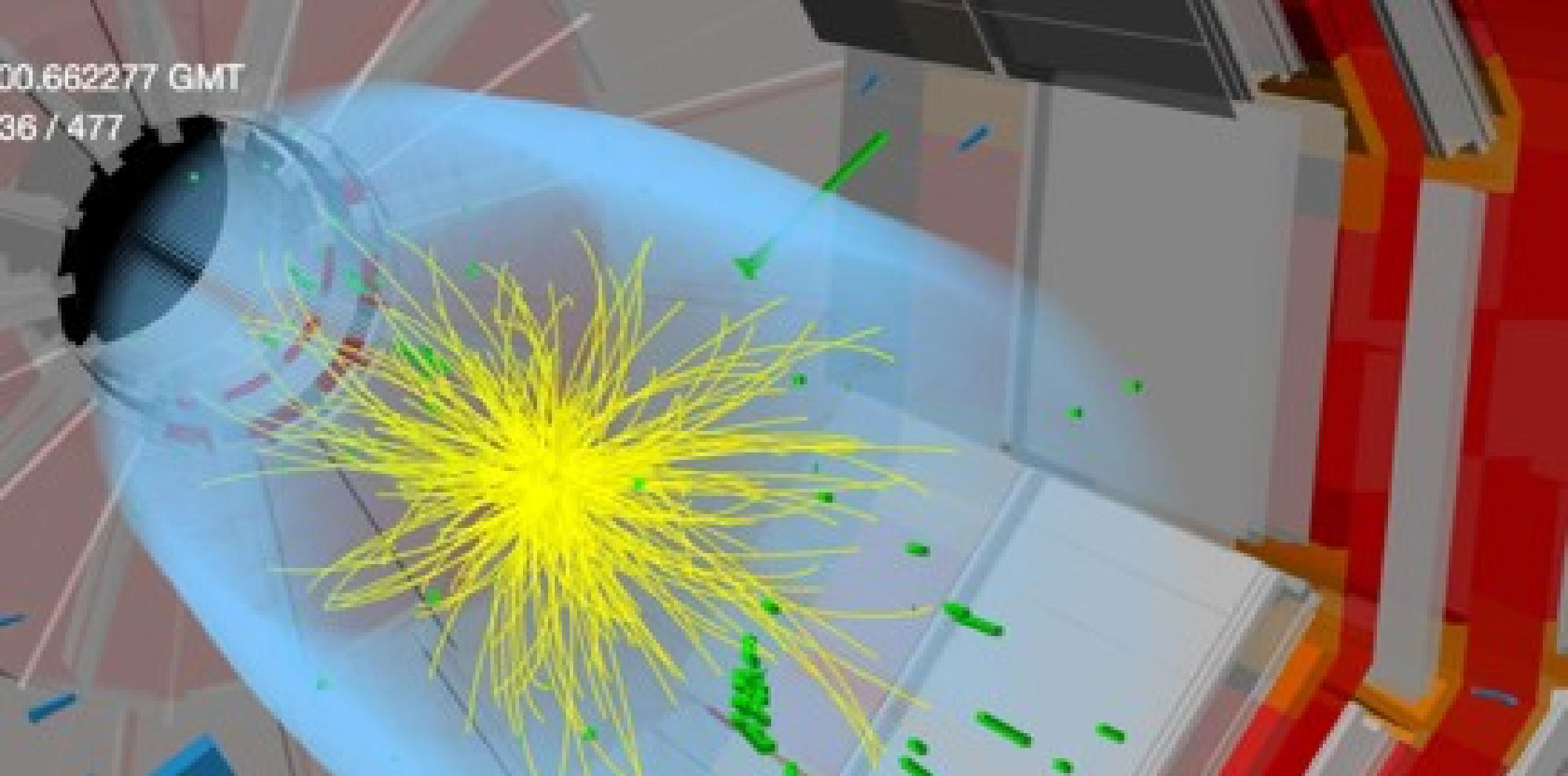
“Digging into” the standard model (Higgs boson)!



Playing with particles, and “crashing” them to see ...

00.662277 GMT

36 / 477



... what's inside: energy = matter (particles), $E = mc^2$.



... people diversity: “**where** do we come from” but also...



... **“when?!”** ... and still sharing actively knowledge !



Main site in Swiss, other 1.5 km far from, in France.

How many persons? +15'000!



2'500 staff

600 fellows &
apprentices

500 students

11'000 users

2'000 external
companies

More than 15 000 people collaborate in – with – for CERN



2500 staff members operating accelerator complex.



Operating CERN complex accelerators remotely ...



... accessing large scale machines, and finally...



... directly working on site (100 m below surface).



Relying on large infrastructure (computer centre) ...



... or also a 400 kV dedicated network (250 MW daily)!

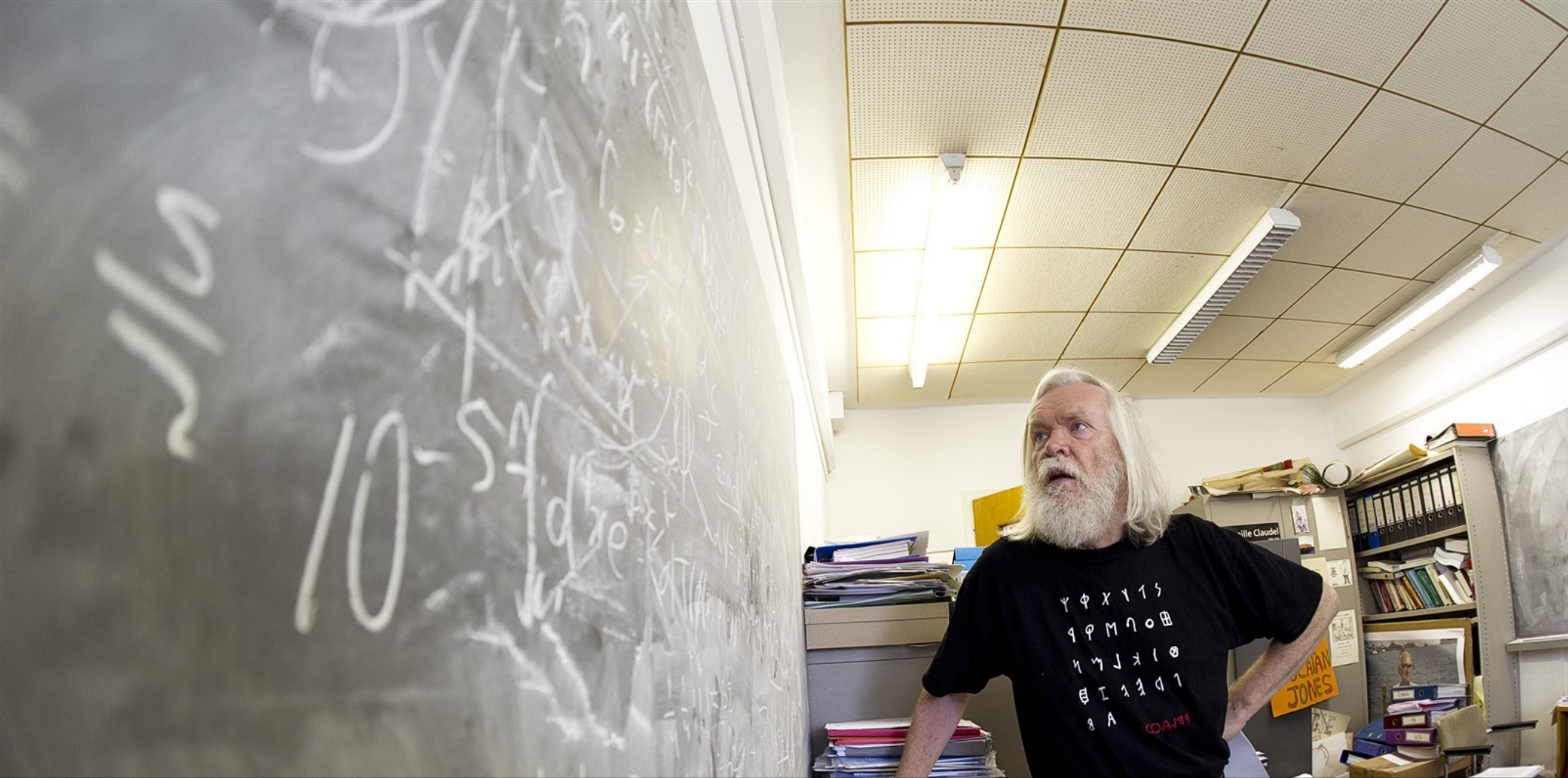
Physicist

1

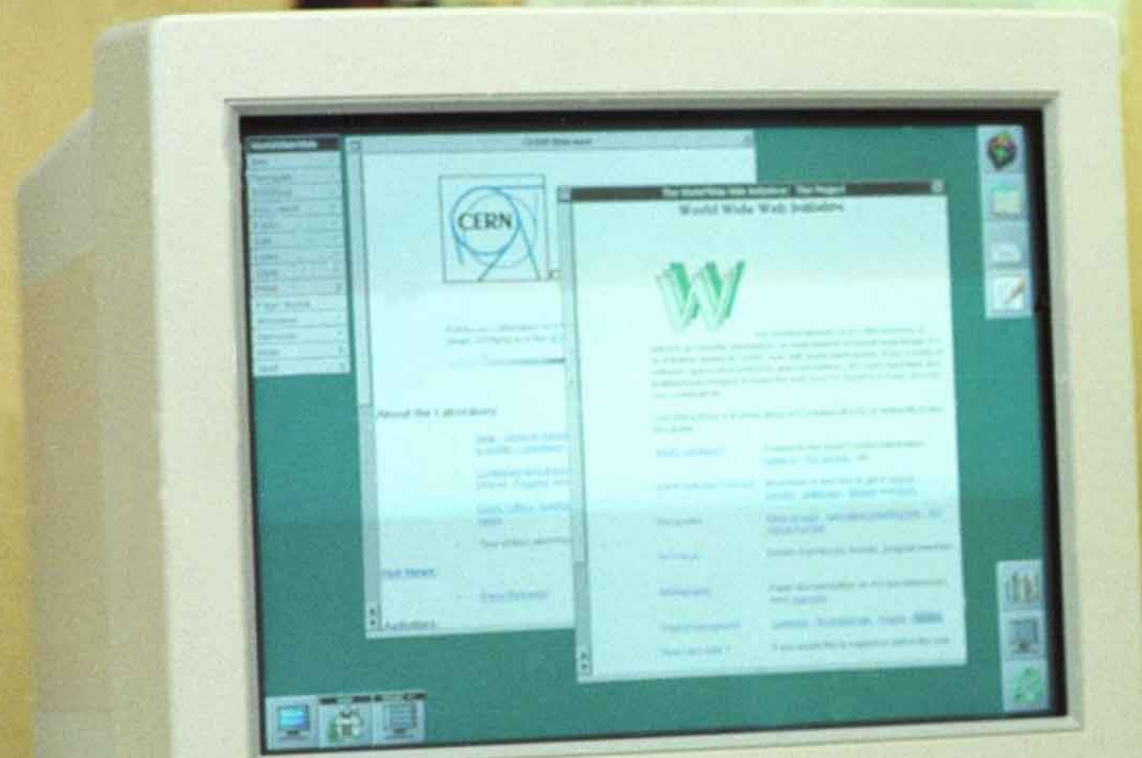
:

10

Engineer /
Technician



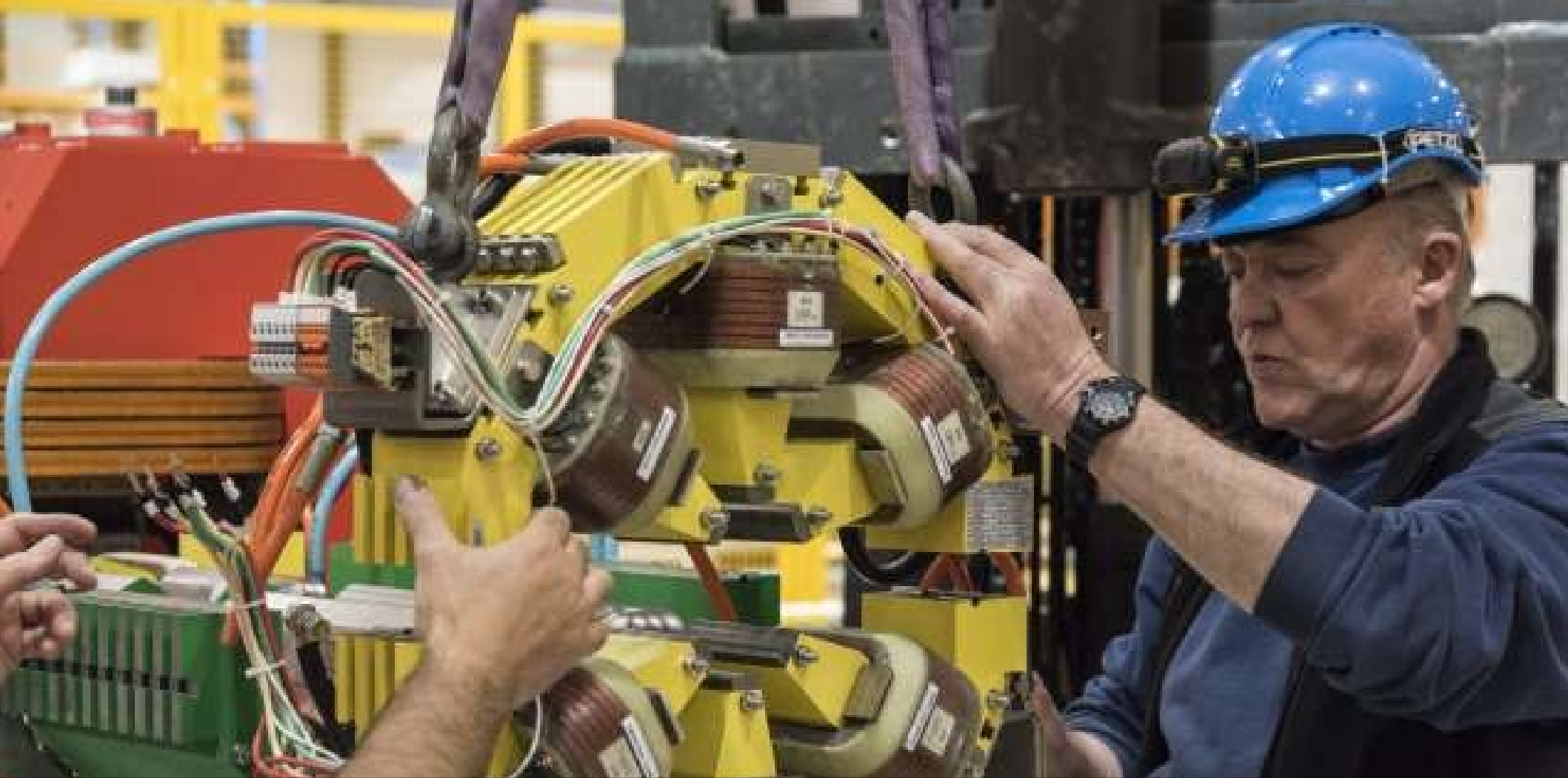
For **ONE** CERN research physicist ...



... or this other physicist, at the **ORIGIN** of web ...



... **TEN** engineers or technician people ...



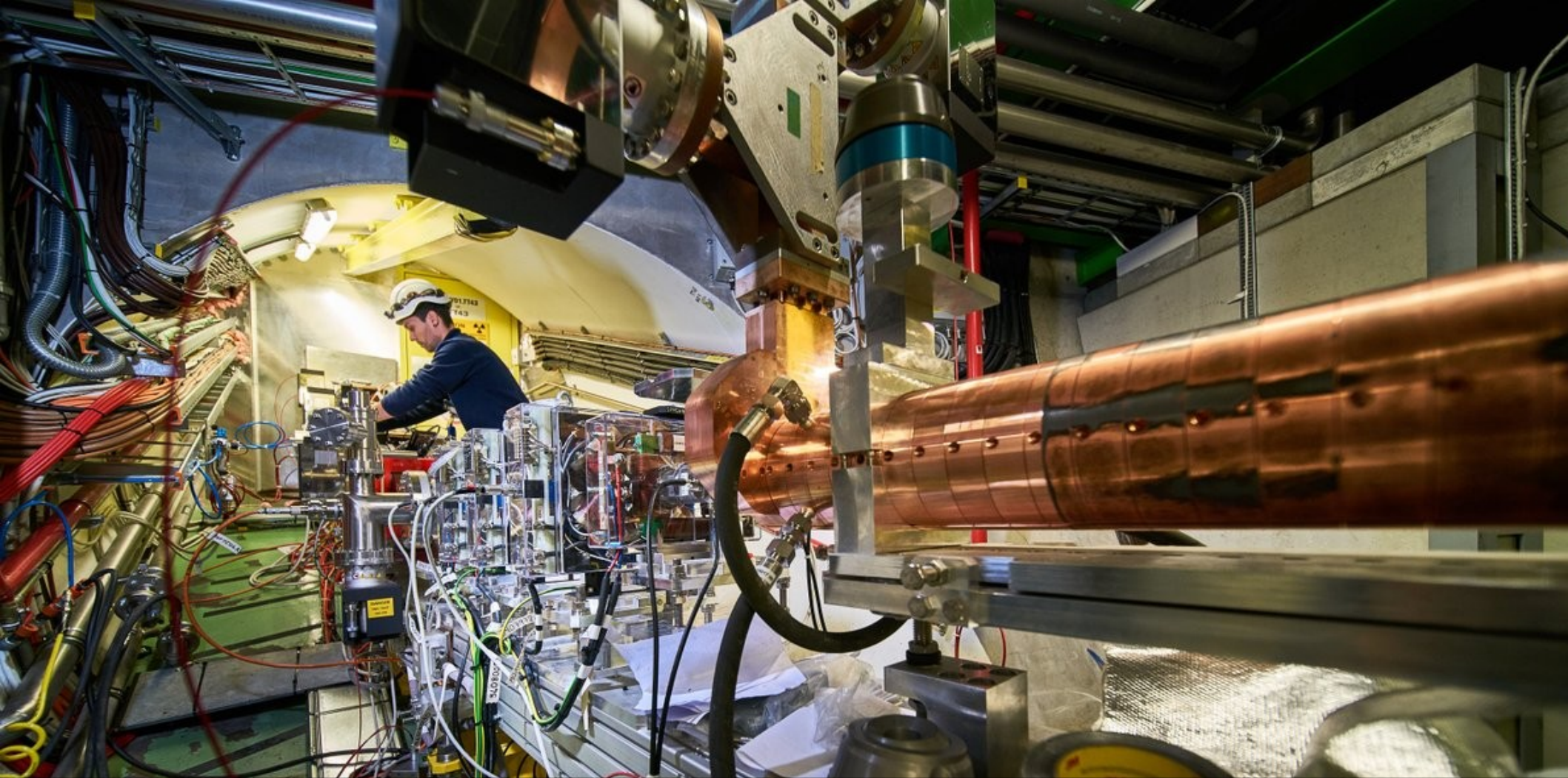
...from a **high diversity** of specialities ...



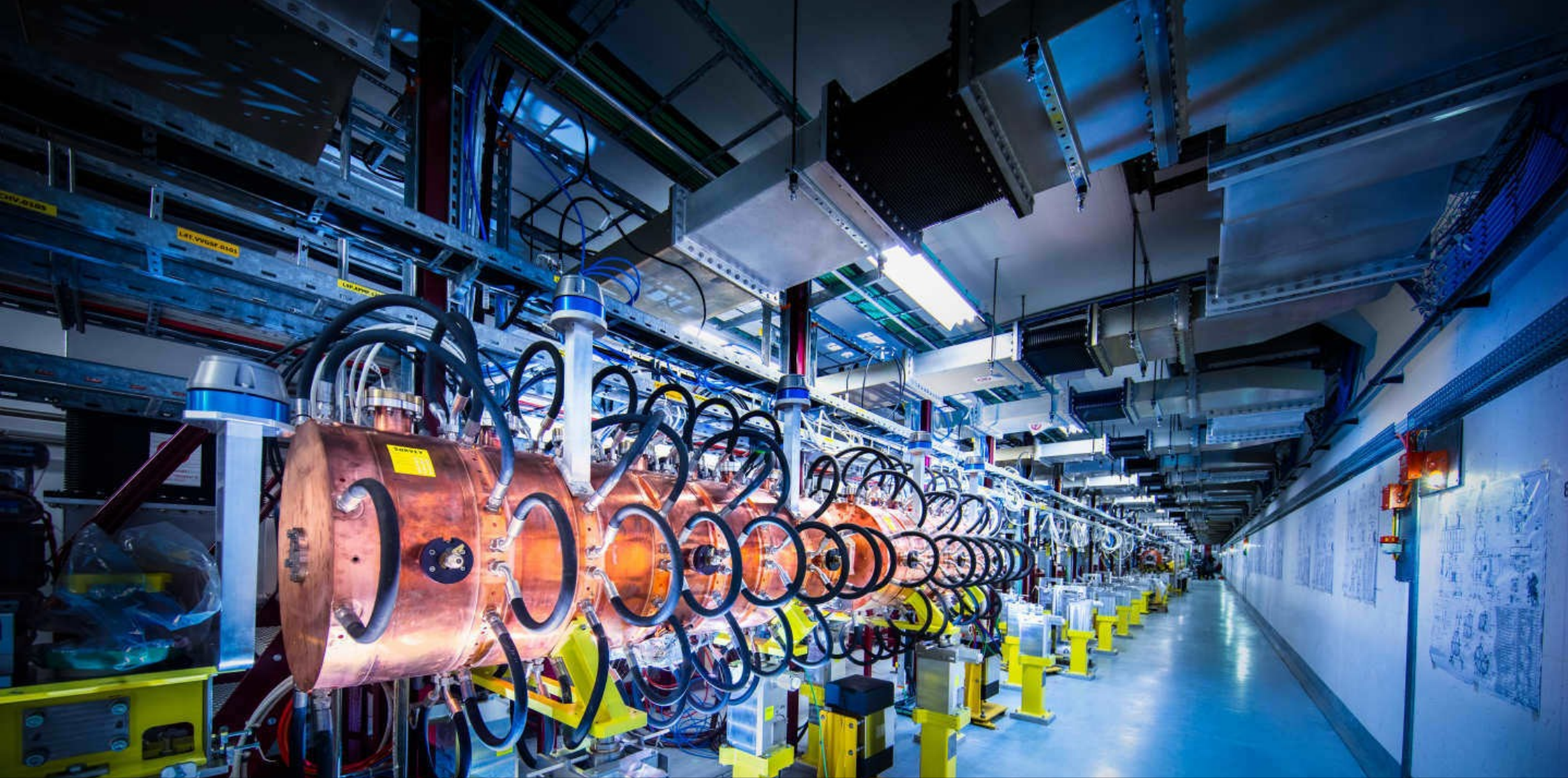
...with some **special guest** around, sometimes ...



... and other - **more easily smiling?** – faces!



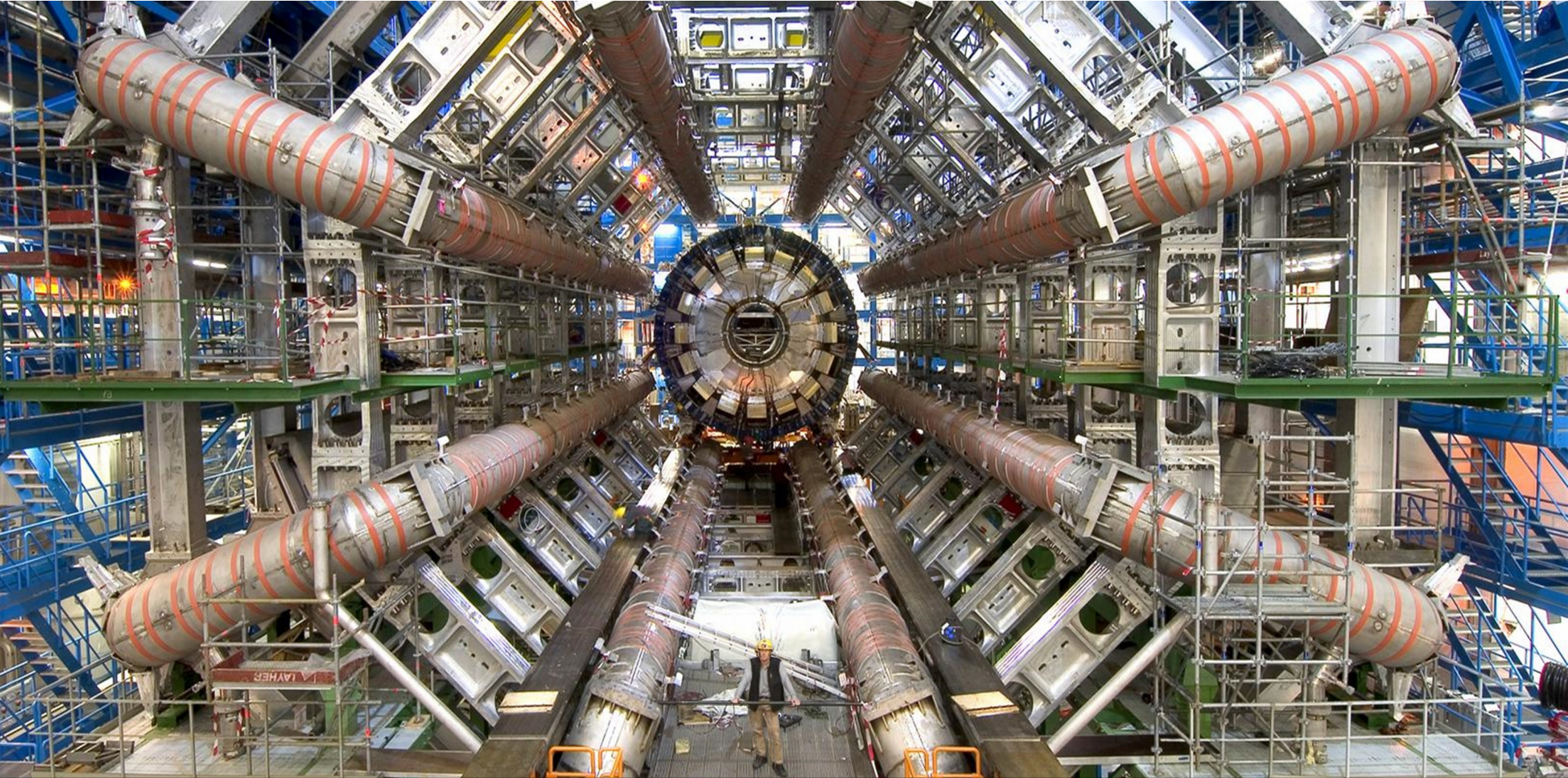
Assembling **unique** systems for unique experiences (Awake)...



...maintaining or designing **new accelerator** (Linac4).

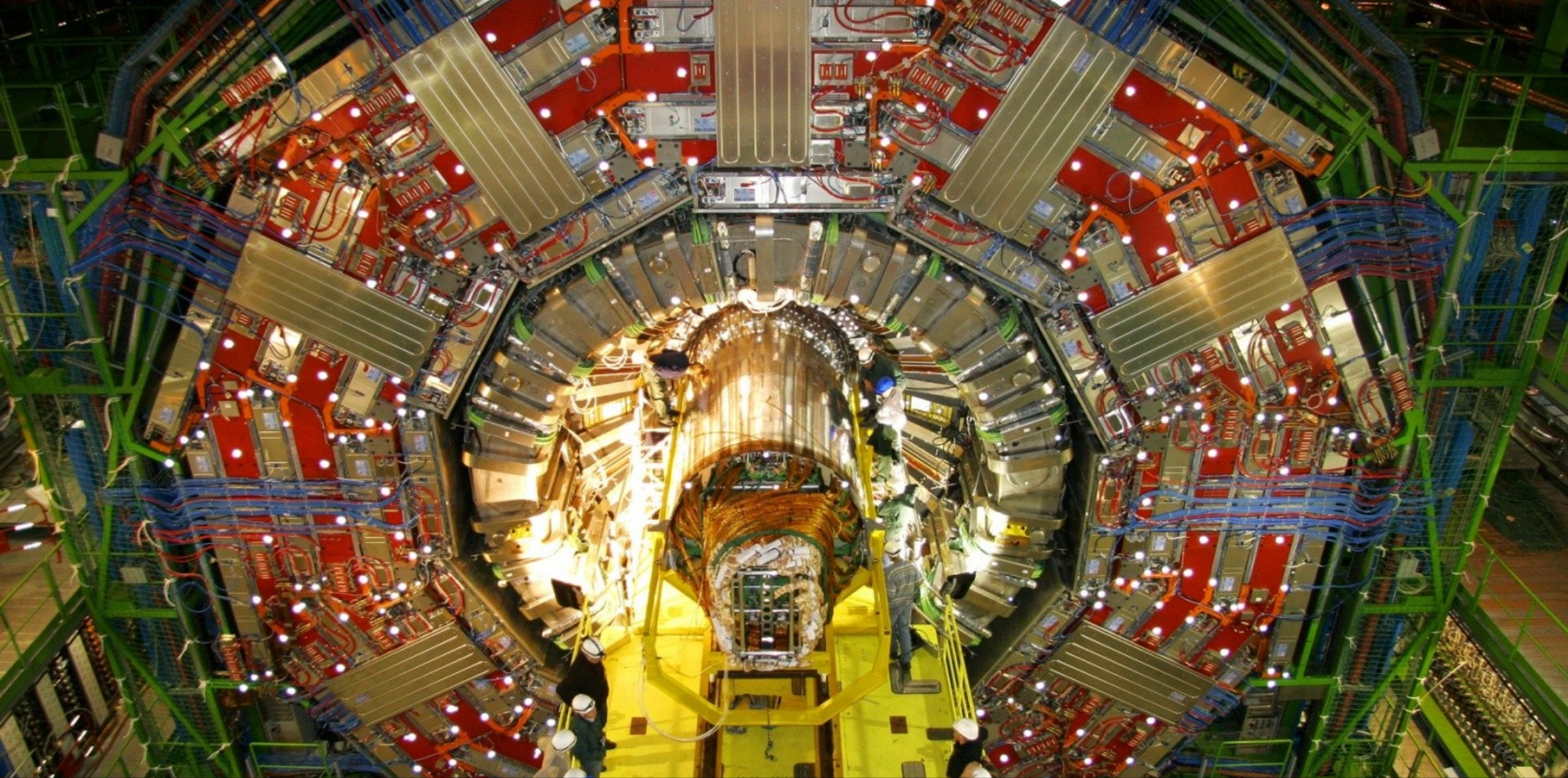


2 300 CERN Staff + many others from all over the world...

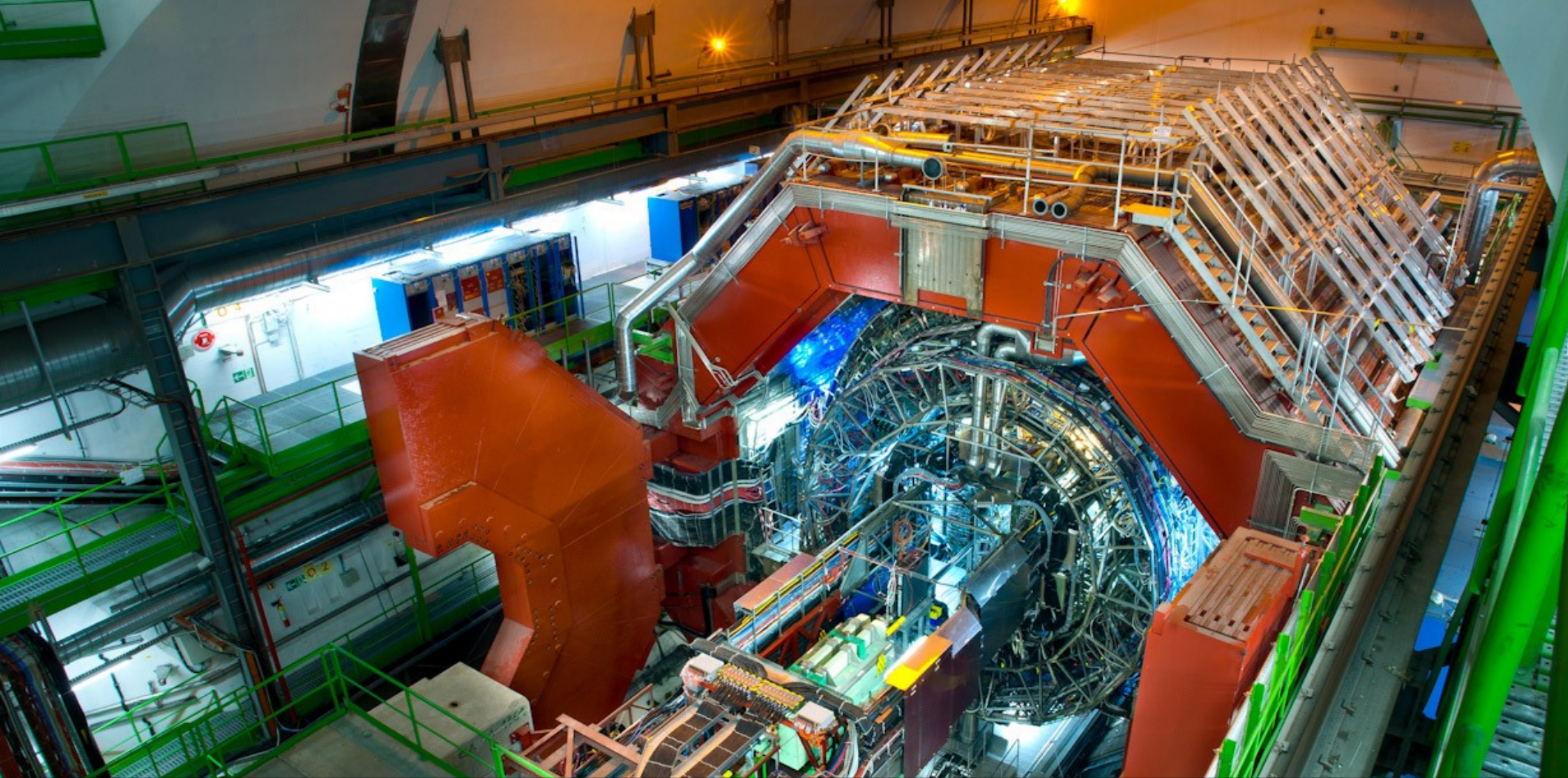


... building incredible complex detectors like Atlas ...

(don't miss the kung-fu master in centre of photo for appreciating the scale)



... or CMS one, heavier than the Eiffel tower, or also...



... ALICE one: the “ultrasensitive eye” detector.



CERN: where World Wide Web was born !



Medical applications: **PET** Scanner

EP C

Electrical Power Group overview...
... focusing on Converter technology.

≈ 80 Engineers /
Technicians in the field of
Power Electronics



... 80 engineers & technicians sharing large know-how



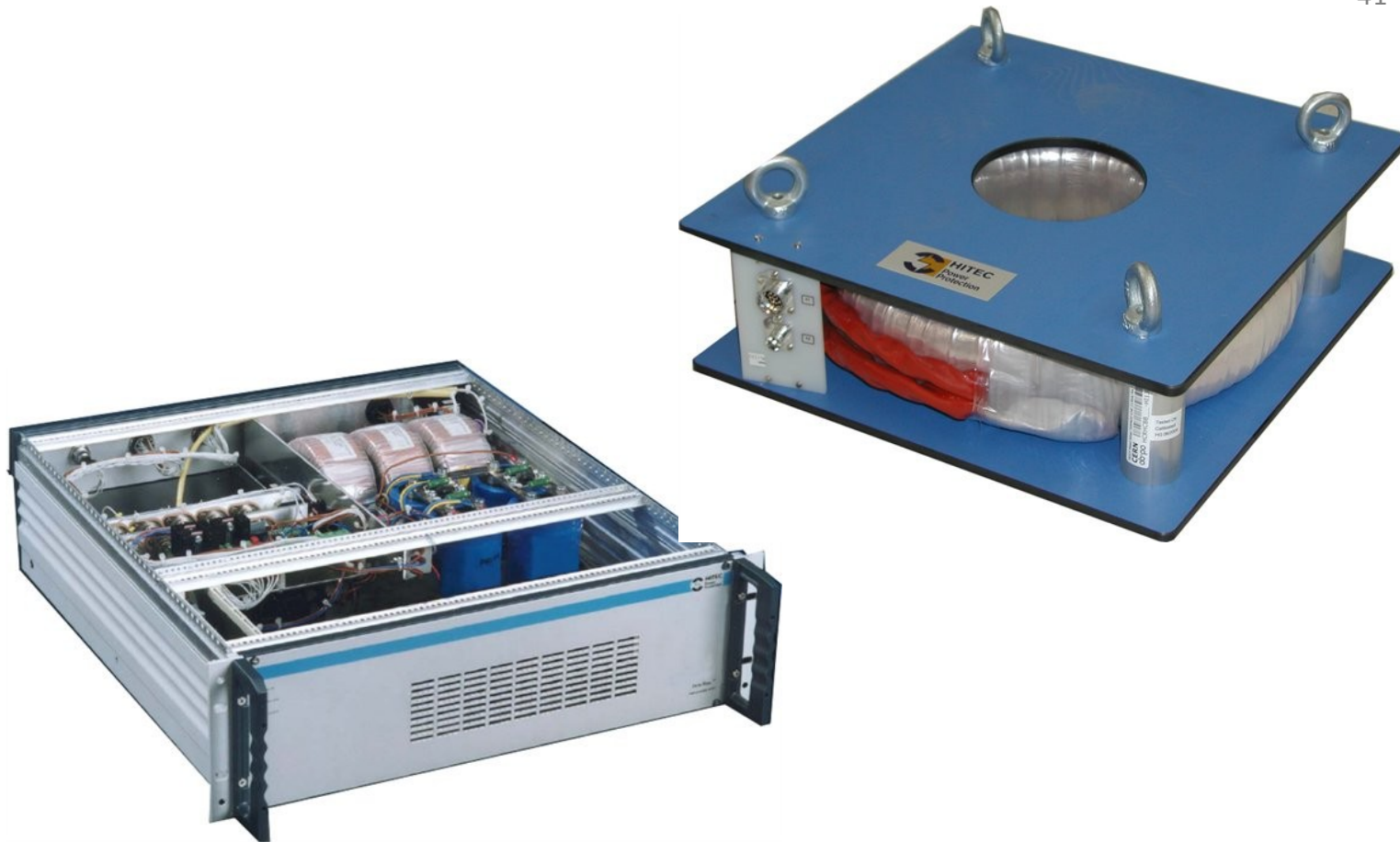
... designing, maintaining and operating converters ...



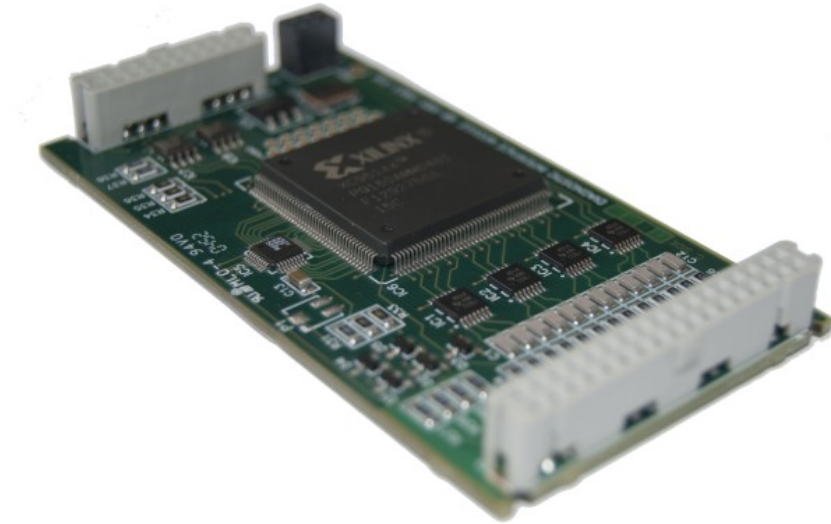
... from 100 Watts up to some kWatts or ...



... in the range of **MegaWatts** or even more.



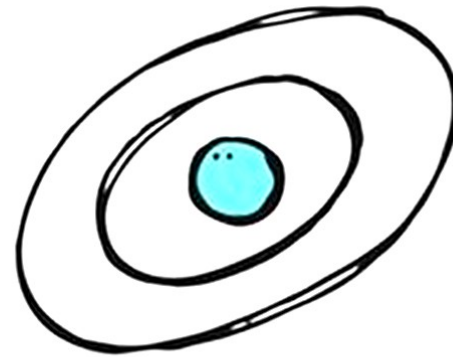
... using very **specific** and **precise current sensors** ...



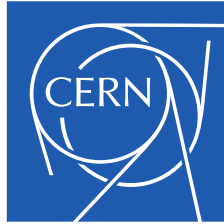
... designing digital advanced electronic parts and ...

THINK LIKE
A PROTON.

ALWAYS
POSITIVE.



That's all folks !!, and don't forget ...



www.cern.ch