

## Answers by Didier Contardo (IN2P3)

**What is the capability of constructing and testing prototypes in your country? If limited, do you have access to networks that enable to integrate into prototype projects?**

In2p3 and CEA have largely contributed to calorimetry projects in the development and construction of the CMS homogenous PbWO<sub>3</sub> crystal electromagnetic calorimeter and of the ATLAS LAr calorimeters. In2p3 has also pioneered the development of high granularity particle flow calorimetry in the CALICE project and contributes to the development and construction of the CMS HGCal electromagnetic compartment. For all these projects, large scale prototypes have been built and tested in the framework of international collaborations. France has therefore the capabilities for constructing and testing calorimeter elements.

**For the construction of large(r) devices: will/can construction be realised “in house” or is the tendency rather towards subcontracting?**

So far contributions to the construction of devices mentioned above have been in house. There is however a tendency to consider subcontracting as scale of projects is increasing.

**Is work on instrumentation recognised for careers in your country?**

- Work in instrumentation is well recognised in careers of permanent staff.
- For permanent recruitments, positions can be dedicated to instrumentation but this is a small fraction, mostly driven by opportunities. Instrumentation work is considered in regular positions but contributions to physics analyses are essential. Recently it has been considered to promote research engineer positions dedicated to instrumentation.
- For PhD and PostDocs non permanent positions the instrumentation aspect is often part of the job profile, particularly in R&D and construction periods.