

General information

The Paul Scherrer Institute, PSI, is the largest research centre for natural and engineering sciences within Switzerland, with its research activities concentrated on three main subject areas: *Matter and Material*, *Energy and the Environment*, and *Health*. The PSI develops, constructs and operates complex large-scale research facilities. Every year, more than 2000 scientists from Switzerland and other countries travel to PSI in order to perform experiments at our unique facilities. PSI has about 1500 staff, with an annual budget of approximately CHF 365 million, and is primarily financed by the Swiss Confederation. PSI is part of the ETH Domain, with the other members being the two Swiss Federal Institutes of Technology, ETH Zurich and EPFL Lausanne, as well as the Swiss Federal Laboratories for Materials Science & Technology, Empa, the Swiss Federal Institute of Aquatic Science and Technology, Eawag, and the Swiss Federal Institute for Forest, Snow and Landscape Research, WSL. The Institute is located on both sides of the River Aare, in the Villigen and Würenlingen municipal areas, in the Canton of Aargau. PSI contributes to the education of future generation by training young specialists and students. For school students it offers/provides the school laboratory iLab.

Facts and figures

PSI funds:	365 MCHF
Staff (full-time jobs):	1500
Doctoral students	about 300
Apprentices:	93
External users:	about 2200

(Key figures 2012)

History

1988 - the Swiss Institute for Nuclear Research (SIN) and the Federal Institute for Reactor Research (EIR) were merged to form the Paul Scherrer Institute (PSI). The Institute was named after the Swiss physicist Paul Scherrer, who lived from 1890 to 1969. He taught and performed research at the ETH (the Swiss Federal Institute of Technology) and was well-regarded internationally, contributing greatly to the high standard of the natural sciences within Switzerland.

1989 - Beginning of the construction of the SINQ neutron source

1991 - Establishment of a joint Institute for medical radiobiology with the University of Zurich

1992 - The Swiss Federal Interim Storage Facility for low and intermediate level waste from medical, industrial and research activities (the BZL) was put into operation

1993 - PSI opens its large facilities to users from all over the world

1996 - The SINQ large research facility (the most powerful neutron source anywhere in the world) was formally inaugurated at PSI.

The first cancer patient was treated with proton radiation using the spot-scanning technique (at the PSI gantry)

1998 - Start of the construction of the large facility Swiss Light Source SLS (Cost 180 million CHF)

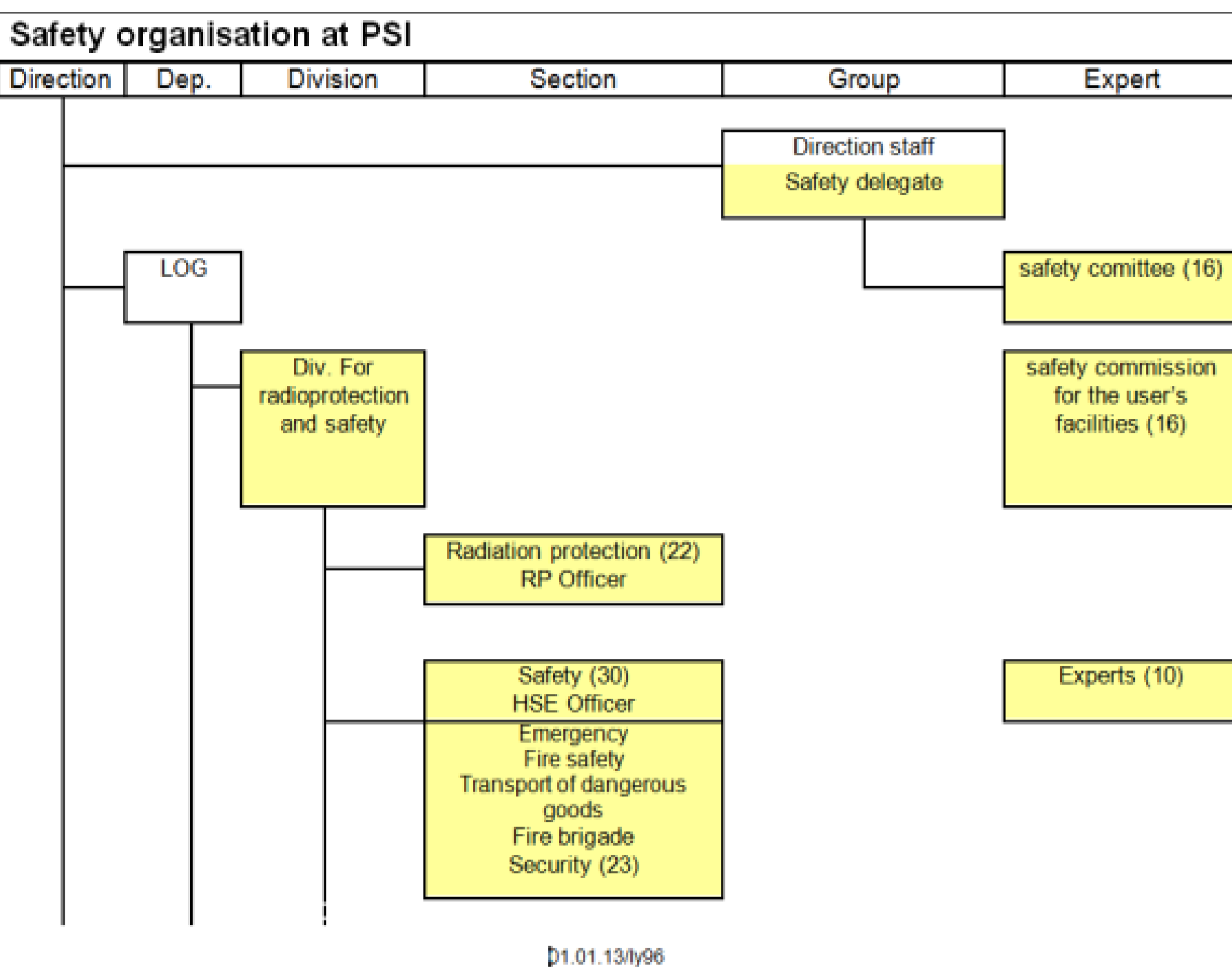
2001 - Inauguration of the SLS on 19th October
Specification and procurement of a compact superconducting cyclotron (COMET) for proton therapy

2004 - The COMET superconducting compact medical cyclotron arrived

2006 - Development of the large components for Gantry 2 (proton therapy equipment for the irradiation of moving tumours, e.g. lung and breast carcinoma)

2010 - Inauguration of the SwissFEL test facility

2013 - Start of the construction from the new large-scale facility SwissFEL



HSE

The division of Radiation Protection and Safety (ASI) is a part of the logistic department. The division is responsible for enforcement of all aspects of safety and security at PSI.

Specifically, this means:

Protection of personnel and the environment from unacceptable PSI irradiation by ionizing radiation.

Practical implementation of the legislation in the field of occupational safety, fire protection, environmental protection and security.

Like by the ESRF, ionizing radiation is one of the most important, specific safety hazards at the PSI. Due to the operation of the different large scale facilities, a very wide range of other safety hazards exist at the PSI: non-ionizing radiation (lasers, magnetic fields, ...), electrical hazards, chemical hazards, working at height, ... The mission of the Safety section's and there affiliated experts is to support the PSI staff to assume their HSE duty.

Projects

In March 2013 the construction of a new facility has started. This new large-scale facility – the X-ray laser SwissFEL – should come on-line in 2016. It will produce very short pulses of X-ray light, with laser-like properties. Researchers will be able to use these pulses to visualize extremely fast processes, such as how new molecules are created in a chemical reaction; to determine the detailed structure of vital proteins; or to determine the relationship between electronic and atomic structure in materials.

A second project has been started in February 2013: the construction of a 3rd proton therapy equipment.