

The new Operation Control Room at the Paul Scherrer Institute, Switzerland

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In June 2007, the large research facility division of PSI commissioned the new operation control room for its accelerator systems. What elements were taken into consideration, and what are the improvements of the new control room, compared to the old one?

New control room – in service since June 2007

Daylight
- less fatigue
- friendlier environment for employees

Operator Console for Swiss Light Source
- All Network based, no hard-wiring
- Additional working space for beamline and machine experts.

Operator Console for Injector 1
(will be taken out of service soon)



Dedicated server room
- Less noise in control room
- Easier accessibility for IT-People

Console for High Power Proton Facility
- Driving the Spallation Source
- 1.2MW actual beam power (1900uA)

Console for infrastructural tasks
- Radiation surveillance
- Access to experimental areas
- Fire alarm system

Console for Shift leader
- Office computer
- Quick overview of the machines

Console for Proscan (not on the photo)
- Compact Medical Cyclotron (250MeV)
- Beamlines to the therapy gantries

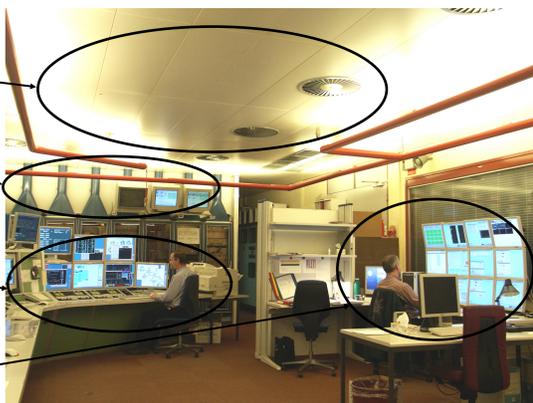
The old control room – in service over three decades

Bad light conditions

Cooling systems
- Making a lot of noise...

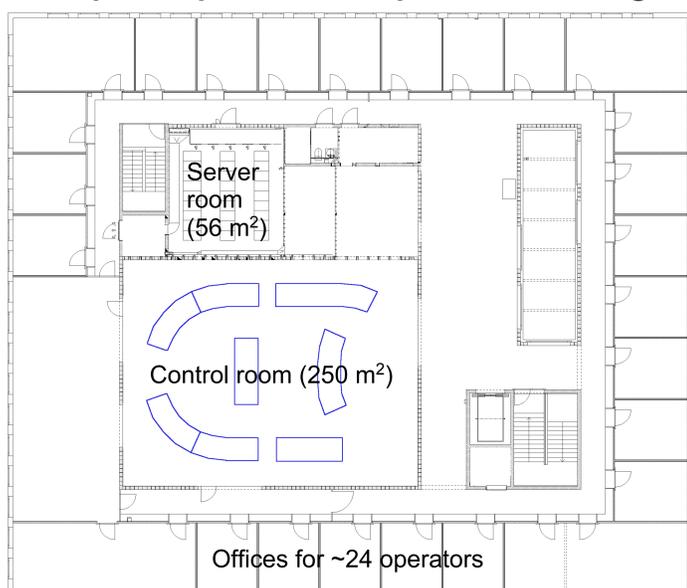
Old workplace for operator High intensity Accelerator

Old workplace for operator Swiss Light Source
No space for additional people



Old console for Injector 1
- Many point-to-point-connections
- Inflexible layout
- Many electrical systems in the control room (causing noise, heat and dust)

Top floor plan of new operation building



New building: • 2 floors, offices for 110 people from , cafeteria,
• 3 conference rooms with 130 seats in total

Summary

In research, systems usually don't stay the same for decades. When planning a control room, one should keep the following points in mind:

- ➔ **Make it big** – you never know, how your systems will look like in 10 years, and how much space will be needed.
- ➔ **Rely on a network distributed system.** The whole layout remains more flexible if you can swap workplaces easily
- ➔ **Make it comfortable** You may have your own office, and are seldom in the control room. People working there all day will appreciate a bright, clean, quiet working environment. Less fatigue will result in more safety for your systems and in a better motivated staff, paying off the investment.