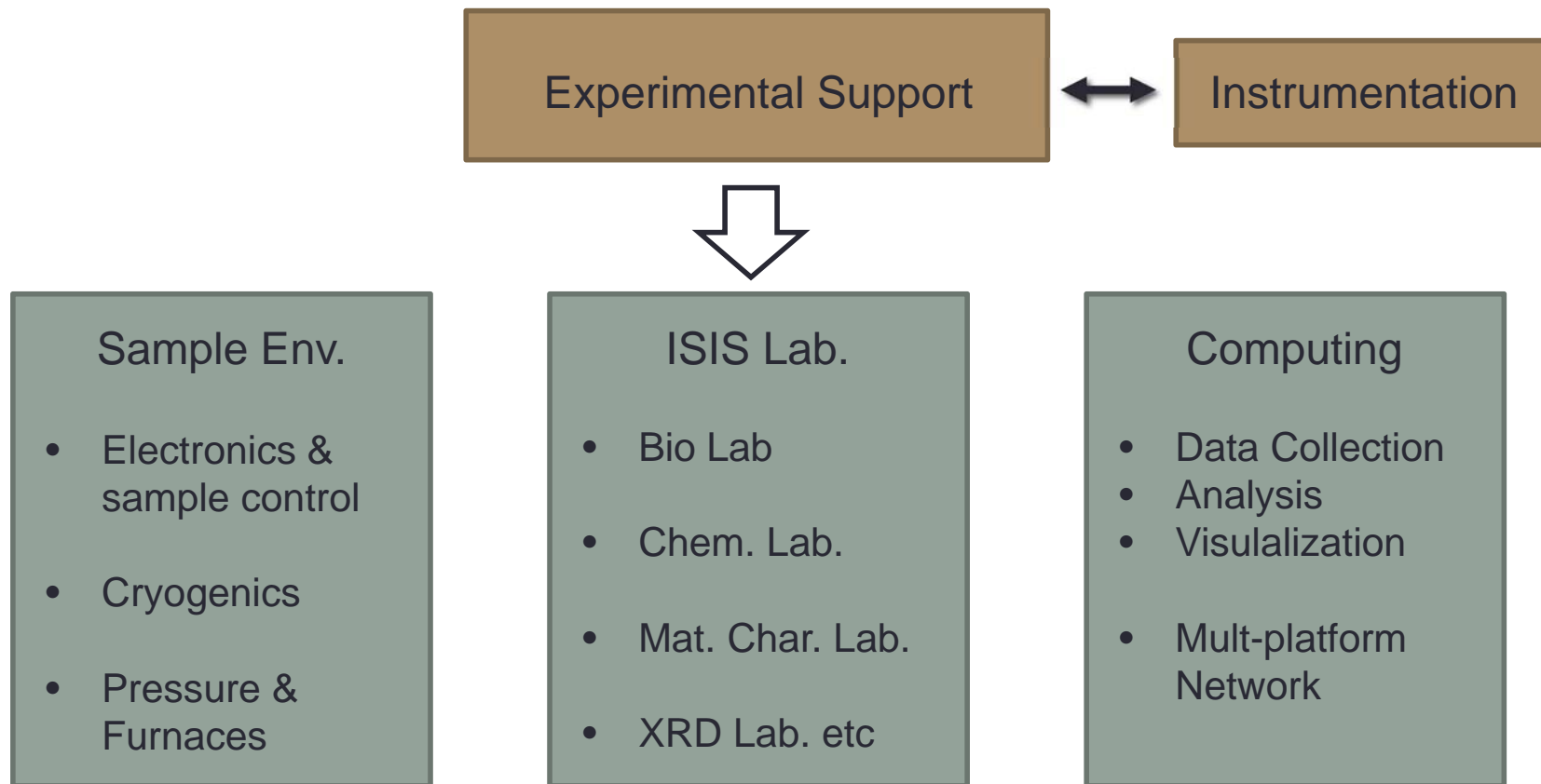


An aerial photograph of the CROSS Tokai-Center at Sungdaejin. The image shows a large industrial complex with several large buildings, including one with a prominent blue roof. The facility is surrounded by green fields and a parking lot. In the background, there are rolling hills and a distant industrial area with smokestacks under a blue sky with scattered clouds.

USER REPORT: EXP. SUPPORT AT ISIS

CROSS Tokai-Center
Sungdaejin

Experimental Support Group in ISIS



Experimental Support: Equipment

Equipment

Electronics and sample control

Electronics and sample support assist with temperature and position measurement systems as well as test and measurement. Such systems are commonly used on rotary cryostats, furnaces, and positioning systems such as linear tables and goniometers.

Low temperature

A very wide variety of low-temperature equipment is available for ISIS instruments, including dilution refrigerators providing temperatures down to 30mK, 'standard' He cryostats (temperatures down to around 1.5K) and closed cycle refrigerators.

Gas handling

A significant number of experiments require gas handling, (GH), facilities; either because the sample is condensed directly from the gaseous phase or the gas used is an integral aspect of sample preparation, or a component of the chemistry being studied.

High pressure

A number of High Pressure systems, $P > 0.1\text{GPa}$, (1kbar), are routinely available to ISIS users.

High temperature

Eight vacuum furnaces, covering the temperature range 200oC to 2000oC are available for the neutron instruments. Heating elements are either Vanadium, Niobium or Tantalum. All elements and shields are fabricated in-house.

Sample containers

Most experiments are performed using a range of standard ISIS-developed aluminium or vanadium sample containers although there is considerable call for special one-off cells.

High magnetic field

Magnets and cryomagnets

Cryostats & CCR

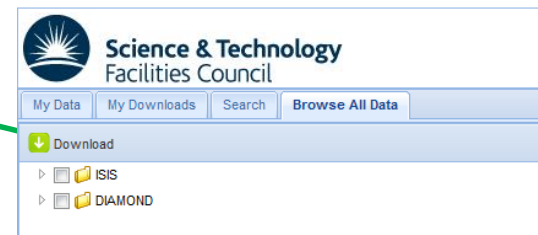
~ 40 kinds of LT equipments are ready for use

Magnets

7.5T, 9T, 10T, and 14T magnets are ready for use

Experimental Support: Computing

ICAT: Data management



Data Acquisition & Control

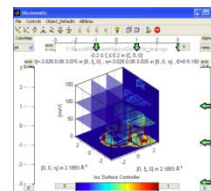
Open GENIE

Data Analysis

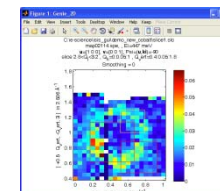
Open source



Matlab



Horace



Mslice

Requests for MLF

- ISIS is systematically organized into professional groups to support users.
- While hardware of ISIS is getting old, it still can keep the top-class position by satisfying various user's demands of experimental conditions.
- In addition to new R&D (Hardware), experimental support (Software) is also important for producing good scientific results.