

HFIR & SNS Neutron Scattering User Program

- Instrument Operations Objective:
 - Provide efficient and reliable operation of the neutron scattering instruments GUP (>95%) to ensure safe and productive (high volume, > 1,000 experiments, > 2,000 users, > 10,000 samples, > 400 pubs) experiments and publications that lead to significant impacts in the broader science community
- Caveat (?):
 - Inefficiencies limiting the performance of a system may not manifest simply as processes that are slow in nature. Inefficiencies may also result from supporting resources being unable to perform a task on demand. This scenario may be attributed to equipment failure, or resource allocation to tasks with competing priorities.

How to achieve these objectives in terms of:

- Reliability
- Safety
- Throughput
- Quality

Experiment Planning

- Proposal Submission & Review Processes
- Planning Information Provided to Users

Experiment Coordination

- Experiment Scheduling & Resource Allocation
- Sample Management Process
- Collaboration with Support Groups (SE, IHC, ES&H, IDAC, NDAV, etc.)

Experiment Execution

- User Onboarding Processes
- Experiment Management Processes (IHC, Instrument Specific Training, Work Control, etc.)
- Instrument Configuration Dictated by Experiment Schedule

Data Analysis

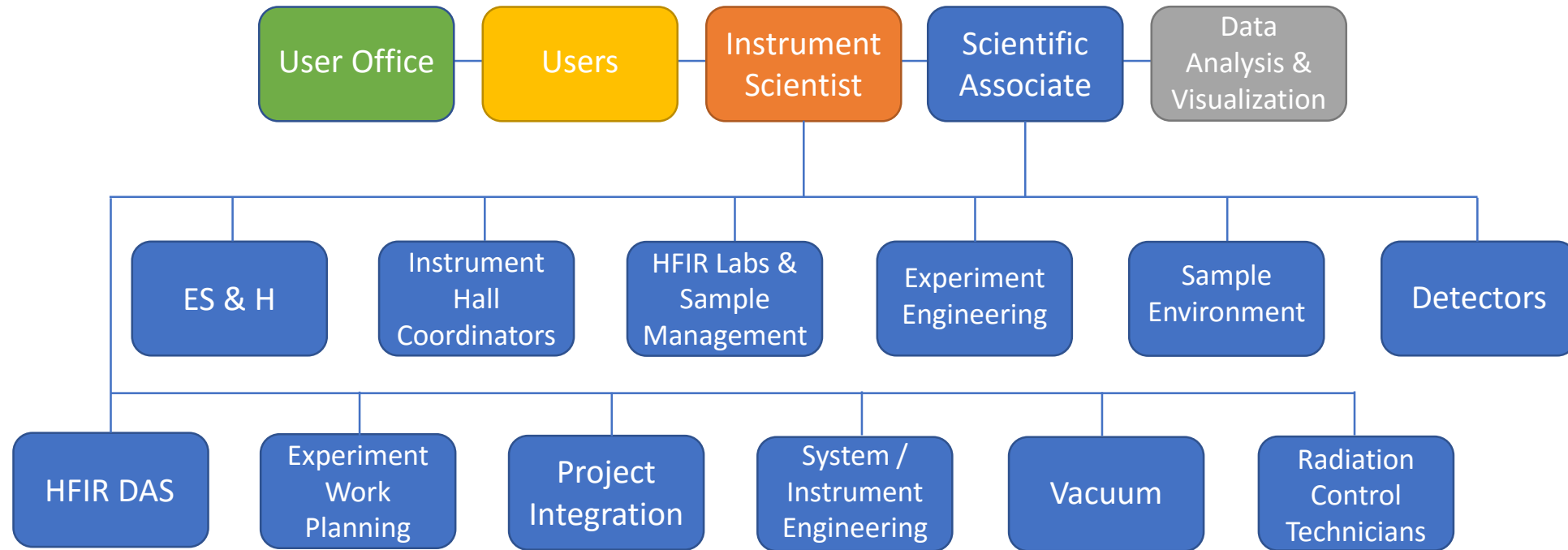
- Software Training,
- Scattering Technique,
- Etc.

Publication

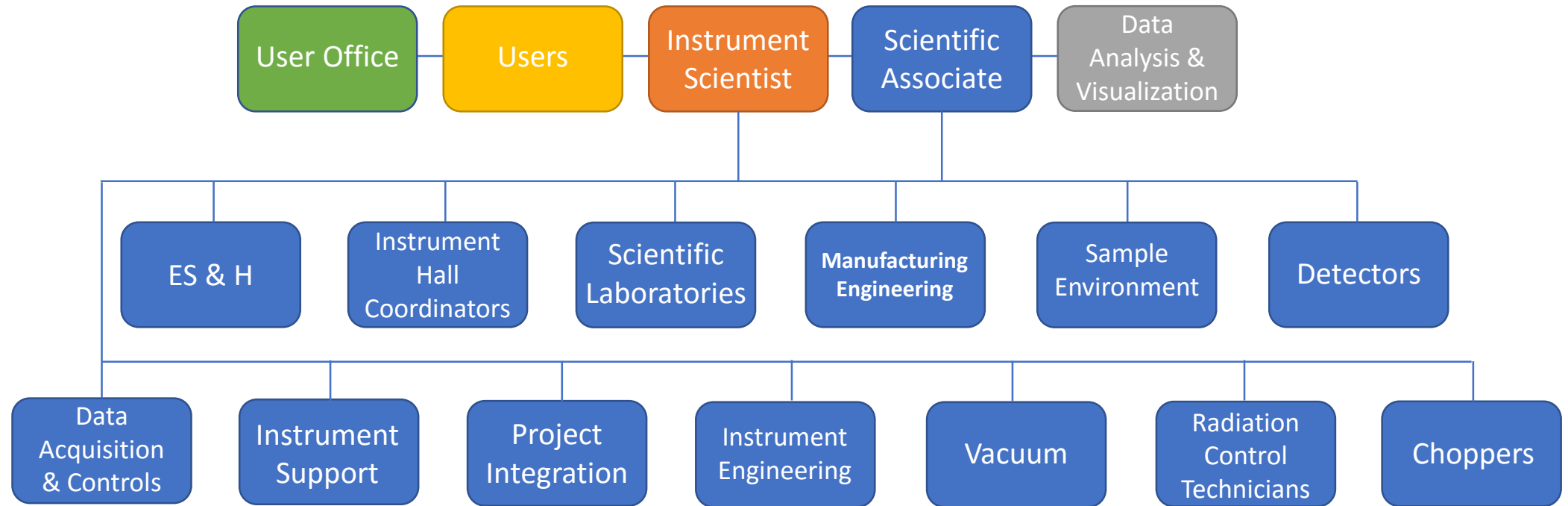
- Post-Experiment Analysis
- Manuscript Collaboration
- Etc.

Critical Processes that support the objectives

HFIR Instrument Interfaces & Communication Channels



SNS Instrument Interfaces & Communication Channels



Other factors outside of the experiment process that tax instrument support resources

- Roles, processes, and equipment that could still benefit from better standardization
- Instrument Upgrades via SPP, LDRD, Mid-Level, No-Level, etc.
- Inconsistent training and expectations of transient staff
- Infrastructure Reliability / Obsolescence
- Increasing or ill-defined scope
- Under-estimation of effort
- Offering instrument capabilities to GUP which have not been properly commissioned and demonstrated
- Time wasted recovering from compliance issues

- *These factors will decrease the probability of a Successful Experiment*
- *Collaborative Team Effort is a powerful tool*