

Survey Results: Animal Research Facility Priorities

Renovations, Expansions, and Operational Improvements Top The List

Published July 2010

The results are in from Tradeline's annual Animal Research Facilities survey. Responses from 126 individuals from 118 research organizations reveal the top areas of focus for animal facility planning, design, construction, and operations for 2010 and 2011.

What program leaders are doing to address these priorities is the subject of highly focused reports at the upcoming [Animal Research Facilities 2010](#) conference to be held this November 8-9 in San Diego. This is the annual meeting for research veterinarians, capital project teams, project managers, engineering managers, animal facility operations managers, space planners, vivarium managers, biosafety officers, and research program directors to benchmark new management initiatives and animal facility construction programs at their institutions.

Read the survey results below to see how your priorities match up, then make sure your planning team is registered for the November meeting.

The respondents were asked to make open-ended comments regarding their priorities. The overall ranking of the five areas of focus was as follows:

1. Renovations, upgrades or new construction
2. Operating plans (costs, budgets, personnel)
3. Space utilization & research program productivity
4. Energy and sustainability
5. New certification, grant, and regulatory requirements

Below is a summary of the comments received.

Renovations, Upgrades, New Construction

Renovations, upgrades, and expansions, with the goal of making major operational improvement is the top focus for 2010 and 2011. Institutions are looking to improve operations citing six specific goals:

1. Reducing costs
2. Meeting new certification requirements
3. Using new technology and equipment to reduce space requirements, labor, water, and energy (autoclaves, cage wash, disposables, auto watering, HVAC, etc.)
4. Improving research and staff productivity
5. Accommodating more research per sf
6. Increasing flexibility for future program changes

Institutions are looking for new metrics, models, and benchmarks that exemplify efficient animal research programs. NIH funding C06 & G20 construction grants are a large force behind renovations and facility upgrade plans. Finding and implementing new processes to carry out renovations and upgrades with minimum disruption to ongoing operations is an industry-wide challenge that is high on the priority list of respondents. Lessons-learned on recent successful renovations, as well as information on new flooring and wall materials, lighting, and

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Medical College of Wisconsin Aquatics Rack System



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Representative statements regarding **renovations, upgrades, and new construction** from the survey responses:

- ## Operating Plans (Costs, Budgets, Personnel)

Representative statements regarding **operating plans (costs, budgets, personnel)**:

- ## Space Utilization & Research Program Productivity



Notes:

[illegible]

Space plans, equipment and procedures that increase research and employee productivity and maximize space utilization, without significant cost increase are regarded as high-value action items. Renovations are being planned that incorporate new automation equipment, disposables, and technologies that expand research capacity and return value to the research program. As well, methods to optimize current space without a need for renovations or additional personnel is highly sought after as budgets are extremely tight. An increase in aquatic species (zebrafish), behavioral research, and swine is placing retrofit pressure on existing space and is causing research teams to take a new look at new equipment, configurations, and features that will increase animal housing densities and facility flexibility. Conversion of old facilities to support new equipment options is a top issue. Metrics and benchmarks that quantify efficiency, productivity, and profitability are in high demand across the industry.

Representative statements regarding **space utilization and program productivity**:

- "Has anyone compared room layouts and cage capacities vs. job performance efficiency to determine optimum arrangements?"
- "We need to optimize existing space without the cost & disruption of a major renovation."
- "Are there newer models that represent productivity of space in shared environments?"
- "How are people modifying their facilities to respond to new research projects?"
- "Our existing research space is being challenged by behavioral research."
- "What are the new space and productivity metrics by species – rodent, NHP, Ag, Large Ag...?"
- "How do we maximize current space to accommodate unexpected species in a mouse facility?"
- "We need better operational planning during the design phase."
- What is the best way to house multiple species in a single room to maximize space use?"

Energy and Sustainability

Energy and sustainability issues are high on respondents' action lists, although the priority of these issues is significantly down from previous years' survey results. Air change rates in vivaria continue to be high on action lists to reduce cost and address sustainability in animal research facilities - not only by reducing energy usage and the resultant reduced utility costs, but also from the point of view of lowering the amount and capacities of air handling equipment and its related capital equipment costs. However, the waters are muddy here, because facility certification and regulatory requirements which are connected to environmental conditions related to air handling continue to prevail. Introduction of IVCs are also strengthening the argument for reducing air change rates in rooms. New equipment, recyclables, and products that reduce the need for water and air such as cage washing equipment, disposable cages, IVCs, new waste disposal and watering technology are gaining traction as the means to energy efficiency and sustainability, and in some cases better use of existing space.

Representative statements regarding **energy and sustainability**:

- "ANYTHING to get animal facilities to be 'greener' and more energy efficient. The 10 air change, 100% in and out, 'cool to 55/heat back to 72' plan makes us the biggest wasters of conditioned air on campus."
- "Do individually ventilated racks change the room air change rate equation? Has anyone accomplished this and addressed certification issues?"
- "We're targeting MEP systems as a potentially big construction and operating cost savings area."
- "We need ideas for BMS (building management systems) for trending and identifying problem areas."
- "How do we reduce HVAC costs within the guidelines of 10-15 air changes per hour...and keep humidity level up in the

winter?”

- “We need better recycling and waste reduction alternatives.”
- “I need to know utility incentives that we can exploit.”

New Certification, Grant, and Regulatory Requirements

There is a growing concern in the industry about understanding and getting up to date on new AAALAC, NIH DRM, FDA and USDA, and other regulatory requirements. New AAALAC certification requirements are of particular interest as 2010 updates to the *Guide for the Care and Use of Laboratory Animals* are expected, and changes must be incorporated into renovations and new construction for future compliance. Older facilities are particularly affected by changing regulatory requirements since it may be more difficult to make the necessary modifications to existing infrastructure. Good Laboratory Practices (GLPs) are also garnering attention specifically relating to research regulated by the FDA. Particular to Universities, GLP is critical as the FDA requires that universities comply with the same requirements as the sponsor companies (pharmaceuticals that subcontract part of a study to a university). Proposed new select agent and biosafety regulations, as a result of the Working Group on Biosafety and Biosecurity, are on the radar.

Representative statements regarding **new certification, grant, and regulatory requirements**:

- “A new *Guide for the Care and Use of Lab Animals* is coming out. Its impact is unknown...”
- “We need to know about GLP and the Animal Rule...FDA requirements.”
- “What business processes are maintenance and engineering departments putting in place to meet GLP requirements?”
- “Some states and institutions have ‘green build’ policies for new construction and renovations above a certain amount. How do you manage ‘green build’ policies in scientific buildings – especially animal facilities and greenhouses?”
- “We can hardly keep up with existing requirements much less new ones.”
- “We need to know what the regulator is expecting, and that changes year to year.”
- “What technology is out there that will help in the data collection necessary for AAALAC & other certifications?”

Summation by Steve Westfall, President, Tradeline, Inc.

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ISSN: 1096-4894