N4 Service Directory for Scientific Services

The focus of N4 is to provide support and maintenance as well as helping improve those businesses and organizations that supply products and services. Management is through a life-cycle based approach to ensure that an appropriate balance between operational availability and cost from a long-term perspective is achieved.

Under 'Hints and Tips' are explanations based on the definitions of 'Waste' within 'Lean' philosophy.

Service	Description	Hints & Tips
Quotation and contract management Service and maintenance contracts, consumable chemicals and solvents	• Review and analysis of opportunities based on, amongst other things, costs, requirements and frequency, routines, formulate contracts / agreements • Appropriate level of requirements specification defined	• Optimization of support and maintenance budget *"Overproduction = producing or doing more than is required or earlier than necessary"*
Support in the acquisition of new equipment From purchase to disposal	• Ensure that the most suitable equipment for the needs of the scientists is obtained • Create documents for tender, specifications, manage quotes and procurement. • Create a cost-effective life-cycle (capital investment in relation to support and maintenance costs)	• Invest in time to create a relevant analysis of the true requirements *"Overproduction = producing or doing more than is required or earlier than necessary"*
Installation of new equipment	• Install equipment that requires contact with service engineers, commissioning or local modifications • Installation is performed in accordance with manufacturer's instructions to ensure compliance with guarantee requirements	• What is in the manual? *"Over processing = something that was not done properly from the beginning and needs to be corrected or redone"*
Inventory and equipment registration	• Catalogue, register and label all equipment to continuously have full traceability • Documented coupling of equipment to the financial asset register in accordance with the U.S. Sarbanes-Oxley Act	• It pays to be structured and methodical. *"Movement = having to stretch to reach, walk to collect something or lift items excessively often to perform their tasks"*

Service	Description	Hints & Tips
Management of laboratory media Gas bottles, solvent vessels, liquid nitrogen, etc.	• Monitor levels and if necessary refill / change	• The right media at the right time, in the right place makes it readily available and minimizes unnecessary action overheads for the laboratory staff *"Movement = having to stretch to reach, walk to collect something or lift items excessively often to perform their tasks"*
IT support For example. Installation of laboratory and office computers Urgent problem solving of lab. and office computers Hardware and software purchase IT infrastructure Requirements Specification Validation	• Process description, analysis and optimization using ITIL or other methods. • Lead and / or participate in software validation projects • Evaluate if and how products meet U.S. Food & Drug Administration's part 11 requirements and/or Electronic Records/Electronic Signatures. • Develop laboratory client installation procedures based on customer requirements – primarily Microsoft products.	• The right person, at the right time, in the right place, creates an environment that frees up time for your core business *"Over processing = something that was not done properly from the beginning and needs to be corrected or redone"*
Preventive maintenance of instruments, equipment and automation systems E.g. Robots, Pumps, Water Purifiers, LAF-cabinets, Biosafety Hoods, Centrifuges, Dryers, Refrigerators and Freezers, Dishwashers, Autoclaves, CTCs, Gas Chromatographs, Liquid Chromatographs, Mass Spectrophotometers, Spectrophotometers, ICP, Capillary Electrophoresis, Ion chromatographs, Moisture content analysis equipment	• Define appropriate maintenance practices based on instrument criticality and the relevant requirements from authorities • Plan and deliver maintenance activities (including purchases, contract management and financial management) • Maintenance tasks scheduled together with customer in order to minimize disruption	• Maintenance plans scheduled to meet the needs of customers and authorities *"Waiting = Waiting for materials, equipment, documents, decisions, information that results in a workflow stoppage"*
General Services E.g. Office and industrial removals, furniture assembly, office furnishings, shipping, traditional caretaking tasks	• Daily Support • Furniture removals • Transport between buildings • Perform corrective and urgent property maintenance	• The right person, at the right time, in the right place, creates an environment that frees up time for your core business *"Movement = having to stretch to reach, walk to collect something or lift items excessively often to perform their tasks"*

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Calibration of equipment E.g. Balances, Pipettes	• Validate measurements • Ensure equipment traceability	• The analyst must be able to rely on results from their instruments *"Over processing = something that was not done properly from the beginning and needs to be corrected or redone"*
Solutions and Media Provide laboratories with culture media, agar plates and media preparations	• Preparation of agar plates and liquid culture media • Buffer and other Media preparation in accordance with customer needs, • All tasks are performed in accordance with current guidelines, for example, GLP	• Routines / recipes / methods with a range of volumes *"Overproduction = producing or doing more than is required or earlier than necessary"*
Preparative support for analytical and research activities	• Manage taking of measurements, weighing, filling of NMR magnets, etc.	• Accuracy is a keyword for securing the correct environment *"Defects = incorrectly performed task or product that can't be corrected and must be discarded"*
Management of local stockrooms E.g. basic consumables, glassware, laboratory chemicals, solvents, dry ice and instrument spare parts	• Ordering, stock supply and removal, inventory management, registration of supplies in existing stockrooms • Building and dismantling of stockrooms and processes including inventory systems, purchasing, operation and disposal/recycling	• Challenge your inventory levels so as not to bind more capital than is necessary *"Inventory = products, equipment, materials or intermediates in a larger quantity than necessary"*
Basic maintenance of equipment Incubators, Water baths, Water purification equipment etc.	• Perform basic tasks required for the equipment to function correctly; Visual inspections, functional controls, liquid re-filling • Measures are planned together with the customer in order to eliminate unnecessary disruptions, often performed as a duty rota.	

Service	Description	Hints & Tips
Minor relocation and laboratory modifications For example, relocation of lab and automation equipment	• Manage the execution of minor changes in laboratory areas (make space for new equipment). • Safe transport and uninstallation / installation of equipment	• Good planning after having asked the right questions results in an optimized use of resources (time and money) *"Over processing = something that was not done properly from the beginning and needs to be corrected or redone"*
Urgent remedial maintenance of instruments, equipment and automation systems	• Perform urgent corrective maintenance in accordance with the defined criticality of the instrument	• Fire-fighting results in higher costs in the long term *"Overproduction = producing or doing more than is required or earlier than necessary"*
Animal House support Provision of support activities related to animal husbandry	• Manage animal food and bedding material • Ensure safe transport of animals between facilities, • All tasks performed in accordance with applicable guidelines	• Legal requirements, ethics and morals are foundations of animal husbandry
Management of Lab related articles not available in local stockrooms E.g. filters, glassware, laboratory chemicals, solvents and instrument spare parts	• Ordering, reception and subsequent delivery of items that are not available in on-site stores	• Ensure that the correct items in the correct amount are consistent with the registered inventory *"Inventory = products, equipment, materials or intermediates in a larger quantity than necessary"*
Legal requirements	• Report usage of solvents and chemicals in accordance with regulatory requirements. • Maintain on-site / local chemical repository • Ensure that chemicals and solvents are appropriately labelled.	• Something we're all required to follow and is easily done when carried out systematically *"Over processing = something that was not done properly from the beginning and needs to be corrected or redone"*
Management of surplus equipment	• Manage surplus equipment and promote its reuse. • Manage external sales of equipment that cannot efficiently be re-used internally • Dispose of equipment that no longer has any value.	• Challenge your inventory levels so as not to bind more capital than is necessary *"Inventory = products, equipment, materials or intermediates in a larger quantity than necessary"*