Equipment Maintenance & Service - The Roche Perspective

SLIPTA/SLMTA SYMPOSIUM – ASLM ABUJA 08:12:2018

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The Path

- Background
- Fit For Purpose – The right Tool for the Right Purpose
- Pre- Install
- Training – The People Factor
- Maintenance & Service
- Challenges & Solutions
Background

- Over 60% of biomedical equipment remain unused in some countries due to lack of maintenance [1]
- About 80% of all medical equipment failure cases are caused by preventable factors [2]
- Failures due to inadequate maintenance alone account for about 60% of all the medical equipment performance cases [2]
- *Roche Diagnostics has gained valuable experience in over 30 years of presence in Nigeria*
Fit For Purpose – The right Tool for the Right Purpose

- Equipment selection plays a crucial role in ensuring the desired utility is achieved and has significant impact on serviceability of equipment; key considerations include

  - Desired purpose – range of assays
  - Current and projected workload
  - Environmental considerations – humidity, air pollution, ambient temperature
  - Infrastructural requirements – electrical, footprint etc

* A robust engagement during proposal stage and a pre–install inspection are required here
Pre-Install

Roche Healthcare Consultancy

Technical Consulting
- Correct Space
- Correct Instrument mix (simulation)
- Delivery requirements
- Environmental and electrical
- Reagent storage
- First time right

Process Consulting
- Understanding what customer really wants VOC
- Helping them solve their real needs and gain efficiencies
- Leverage of these results for better proposals

Strategic Consulting
- Assist organization to conceptualize vision
- Devise a plan to aligning their organization
- Assist with execution of the plan
Pre-Install Site Assessment

**cobas® 6800/8800 Installation Specification**

<table>
<thead>
<tr>
<th>cobas® 8800 footprint</th>
<th>Installed</th>
<th>Effective footprint</th>
<th>OK Yes/No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Length</td>
<td>429 cm (169 in)</td>
<td>589 cm (232 in)</td>
<td></td>
</tr>
<tr>
<td>Width</td>
<td>128 cm (51 in)</td>
<td>309 cm (122 in)</td>
<td></td>
</tr>
<tr>
<td>Height **</td>
<td>216 cm (85 in)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Weight (excluding LG)*</td>
<td>2404 kg (5300 lbs)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Weight (including LG)**</td>
<td>2455 kg (5412 lbs)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Floor Load</td>
<td>444 kg/m² (91 lbs/ft²)</td>
<td>135 kg/m² (28 lbs/ft²)**</td>
<td></td>
</tr>
<tr>
<td>Minimum Room Height</td>
<td>230 cm (91 in)</td>
<td></td>
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</tr>
</tbody>
</table>

**Information floor load per foot**

<table>
<thead>
<tr>
<th>Foot</th>
<th>Floor Load</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>80 kg (177 lbs)</td>
</tr>
<tr>
<td>2</td>
<td>210 kg (463 lbs)</td>
</tr>
<tr>
<td>3</td>
<td>270 kg (596 lbs)</td>
</tr>
<tr>
<td>4</td>
<td>285 kg (629 lbs)</td>
</tr>
<tr>
<td>5</td>
<td>220 kg (499 lbs)</td>
</tr>
<tr>
<td>6</td>
<td>170 kg (375 lbs)</td>
</tr>
<tr>
<td>7</td>
<td>85 kg (188 lbs)</td>
</tr>
</tbody>
</table>

* The 'weight' includes consumables and reagents. (consumables for the cobas® 6800 = approximately 25 kg and for the cobas® 8800 = approximately 50 kg).

** Height including indicator lamp.

**** The floor load calculation is including the free area (yellow area) around the instrument.

Refer to the cobas® 6800/8800 Installation Manual on GRIPS for further details.
Training – The People Factor

- **Lab Operator Training:**
  - Post Install Training
  - SuperUser Training
  - Roche Scientific Campus

- **Lab Operator Support**
  - HyperCare
  - Periodic Supervisory visits
Roche as a Partner

*Training and Support*

Roche Scientific Campus

Empowering Through Knowledge
Roche as a Partner

Training and Support

✅ Information sharing forum, providing a platform for training and discussions on new innovation, technologies and medical assays.

✅ Roche Training Specialists train staff members to a high standard that will assist to meet laboratory accreditation requirements.

..empowerment through knowledge
Roche as a Partner

Training and Support - Milestones

✓ ISO 13485 accredited
✓ Internationally certified local trainers
✓ 600 training days involving 1226 participants
✓ 200 technical training courses
✓ People from across 24 different countries
SLMTA Courses Conducted At Roche Scientific Campus (2013-2016)

Total # People Trained = 121
Maintenance & Service

There are 2 levels of maintenance required for any instrument:

1. Operator maintenance includes daily maintenance, minor interventions as specified by manufacturer (lamp change etc)

2. Manufacturer maintenance – This is divided into 2 categories [3]
Maintenance & Service

- Manufacturer Maintenance and Service is defined by the terms of a Service Level Agreement (SLA)

- Roche Diagnostics Nigeria SLA for the HIV program in Nigeria includes specified frequency of visits by Field Service Engineers (FSE) and Field Application Specialists (FAS).

- Monthly Equipment Functionality reports – defines downtime and cause of failures

- Communication – Regular meetings with stakeholders to align on key issues relating equipment functionality

- Corrective Measures – Optimization of **Equipment : FSE/FAS ratio**
Challenges

- **Operators** – Frequent turnover of trained experienced staff accounts for a high ratio of operator – related errors, high call out rates
  - *Roche Solution* – Increased Supervision visit frequency by Roche Application Specialists, SuperUser Training

- **Electricity** – 60% of instrument errors can be attributed to poor quality power supply
  - *Roche Solution* – Partnering with reputable 3rd party UPS manufacturer

- **Environment** – Parts of Nigeria have significant levels of air pollution – dust, soot
  - *Roche Solution* – Increase frequency of air filter replacement(CAP/CTM), advisory to Labs on environmental conditions – Airconditioning, ventilation

- **Spareparts Availability** – Delivery lead time for spareparts contributes to increased downtime
Challenges

- Ageing Instruments + harsh environment + high workload = Frequent breakdowns

- *Roche Solution* – Replacement with next gen instruments where applicable (subject to several factors)

- Resolution Turn Around Time – Prolonged resolution TaT leads to high downtime

- *Roche Solution* – Remote Monitoring Solutions (Axeda & Dashboard)
References


4. cobas® 6800/8800 Installation Specification

5. COBAS® AmpliPrep TaqMan Pre Site Visit

6. Roche DIA Nigeria Equipment Functionality Report Oct 2018
Doing now what patients need next