# Equipment Maintenance & Service - *The Roche Perspective*

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

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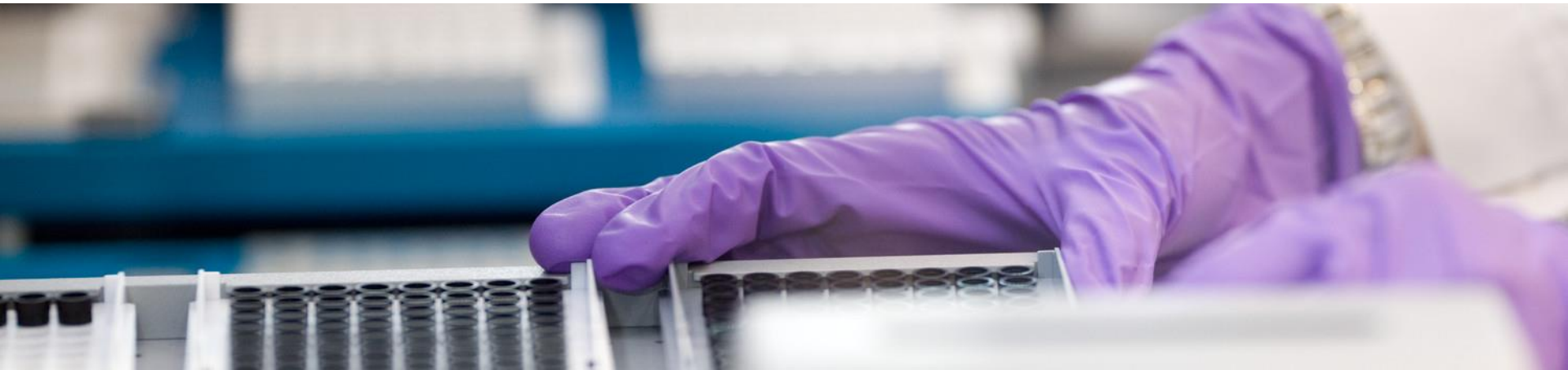
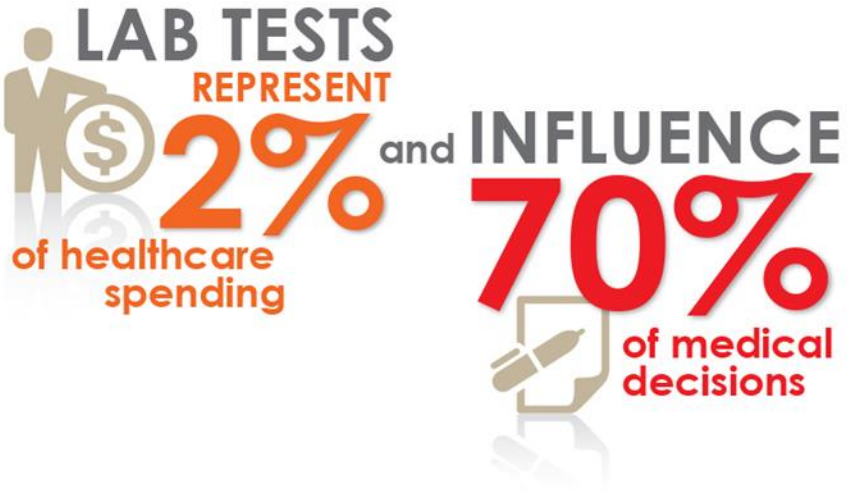


# The Path

- 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

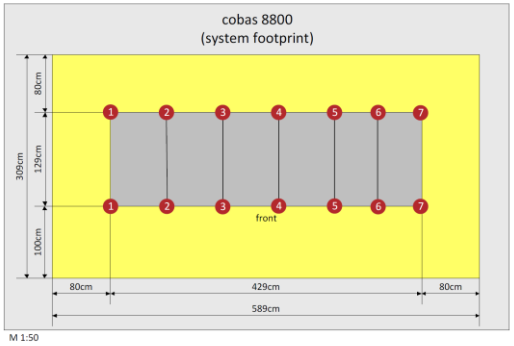
- Assist organization to conceptualize vision
- Devise a plan to aligning their organization
- Assist with execution of the plan

# Pre- Install Site Assessment

## cobas® 6800/8800 Installation Specification

| cobas® 8800 footprint | Installed | Effective footprint | OK Yes/No |
|---|---|---|---|
| Length | 429 cm (169 in) | 589 cm (232 in) | |
| Width | 129 cm (51 in) | 309 cm (122 in) | |
| Height ** | 216 cm (85 in) | | |
| Weight (excluding IG)* | 2404 kg (5300 lbs) | | |
| Weight (including IG)* | 2455 kg (5412 lbs) | | |
| Floor Load | 444 kg/m² (91 lbs/ft²) | 135 kg/m² (28 lbs/ft²)**** | |
| Minimum Room Height | 230 cm (91 in) | | |

| Information floor load per foot | | |
|---|---|---|
| Foot 1 | 80 kg | (177 lbs) |
| Foot 2 | 210 kg | (463 lbs) |
| Foot 3 | 270 kg | (596 lbs) |
| Foot 4 | 285 kg | (629 lbs) |
| Foot 5 | 226 kg | (499 lbs) |
| Foot 6 | 170kg | (375 lbs) |
| Foot 7 | 85 kg | (188 lbs) |




* 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**:

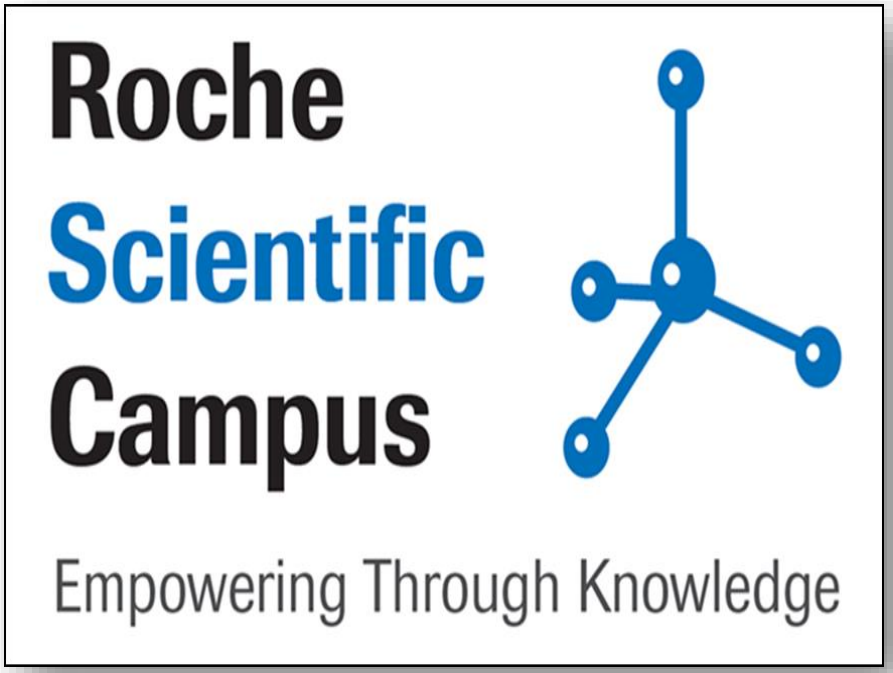
- Post Install Training
- SuperUser Training
- Roche Scientific Campus

- **Lab Operator Support**

- HyperCare
- Periodic Supervisory visits

# Roche as a Partner

## *Training and Support*

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Life needs answers

# Roche as a Partner

*Training and Support*

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

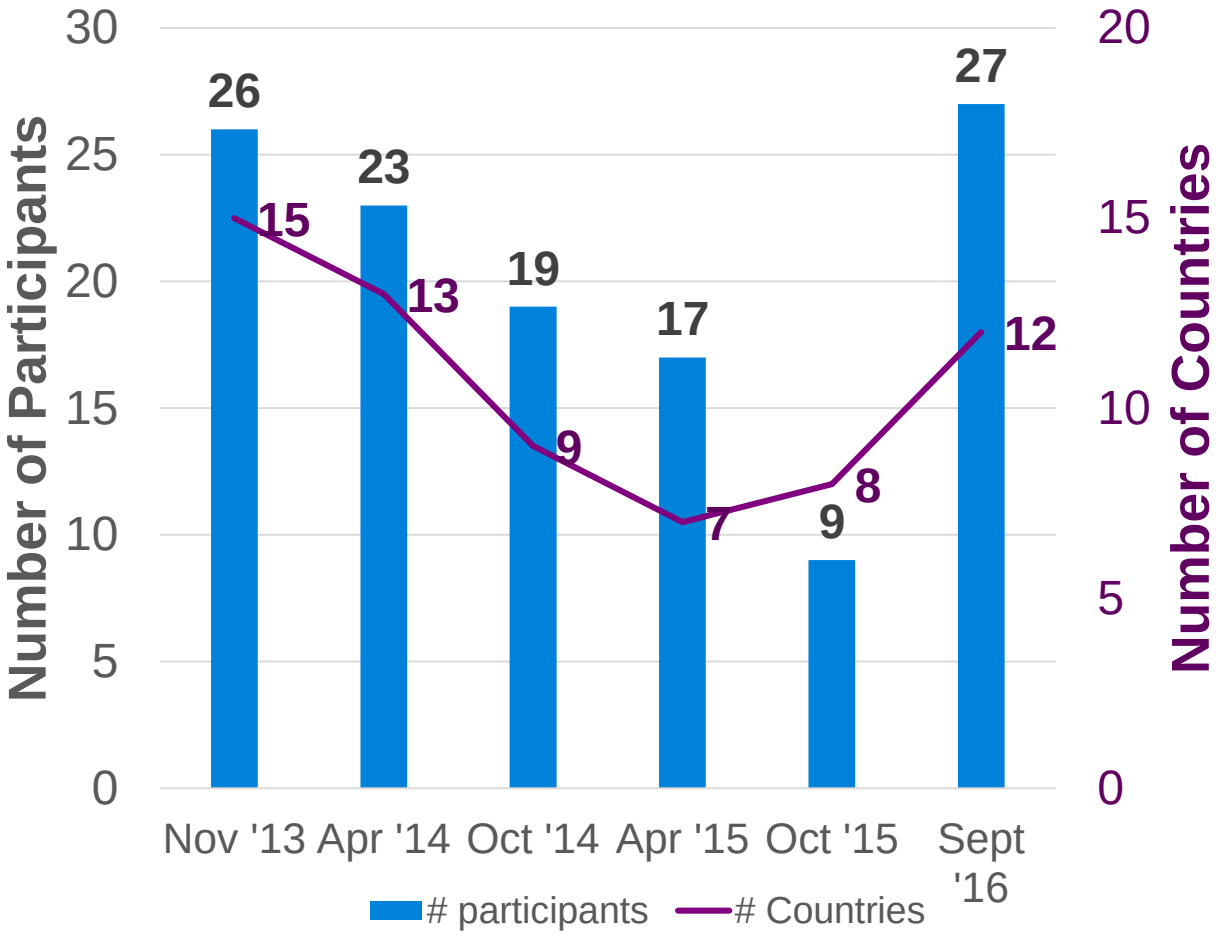
- ✓ Roche Training Specialists train staff members to a high standard that will assist to meet laboratory accreditation requirements.

***..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)



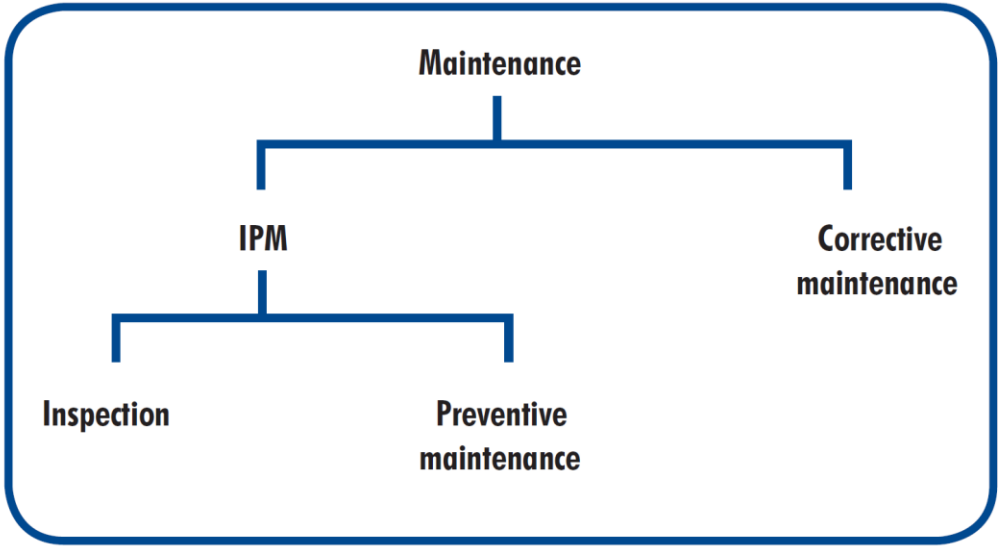

Total # People Trained = 121

# 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


1. WHO Maintenance and, repair of laboratory, diagnostic imaging, and hospital equipment. Geneva, Switzerland. World Health Organization.

2. Kutor JK, Agede P, Ali RH (2017) Maintenance Practice, Causes of Failure and Risk Assessment of Diagnostic Medical Equipment. J Biomed Eng Med Devic 2: 123. doi: 10.4172/2475-7586.1000123

3. WHO (2012) Medical Equipment Maintenance Programme Overview (WHO) Medical Device Technical Series). Geneva, Switzerland. World Health Organization.

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*