**Development of a World-Class Network Infrastructure for uThukela District Hospital**

**COST BREAKDOWN**

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# **1. Introduction**

The uThukela District Hospital is embarking on a comprehensive IT infrastructure upgrade to improve its day-to-day operations and enhance service delivery. The project aims to modernize the hospital's network infrastructure, replace outdated hardware, and implement advanced software solutions to streamline business processes. This initiative is crucial to address existing challenges such as poor network performance, outdated systems, and the need for better data management and security.

# **2. Cost Breakdown**

## **2.1. Infrastructure Costs**

**Hardware Costs:**

* **Servers:** Upgrading to high-performance servers to handle increased data storage and processing demands.
* **Workstations:** Replacing outdated computers with modern, efficient workstations for hospital staff.
* **Networking Equipment:** Acquiring new routers, switches, and cabling to ensure a robust and reliable network.
* **Estimated Total Hardware Cost**: R2,000,000

**Software Costs:**

* **Hospital Management System:** Implementing a comprehensive EHR system to manage patient records and streamline hospital operations.
* **Communication Tools:** Introducing advanced communication platforms for internal staff collaboration.
* **Estimated Total Software Cost:** R1,500,000

**Network Upgrades:**

* **Wireless Access Points**: Installing new wireless access points throughout the hospital to improve connectivity.
* **Bandwidth Upgrades:** Increasing internet bandwidth to support the hospital’s growing needs for online services and telemedicine.
* **Estimated Total Network Upgrade Cost:** R1,000,000

## **2.2. Implementation Costs**

**Labor Costs**:

* **IT Consultants**: Hiring network engineers and software developers for system design and implementation.
* **Training**: Providing training for hospital staff on new systems and software.
* **Consultation and Management Fees**: Engaging external consultants for project oversight.
* **Estimated Total Implementation Cost**: R1,200,000

## **2.3. Maintenance and Support Costs**

* **Ongoing Maintenance**: Regular maintenance and updates for the new systems.
* **Support Contracts**: Third-party support contracts for critical IT components.
* **Estimated Total Maintenance and Support Cost**: R500,000 annually

## **2.4. Contingency Costs**

* **Risk Mitigation Fund**: Setting aside funds to address unexpected issues during implementation.
* **Estimated Contingency Fund**: R500,000

# **3. Rollout Plan**

## **3.1. Project Phases**

**Planning Phase**:

* Finalize the project scope, define deliverables, and establish timelines.
* Key Deliverable: Detailed project plan and timeline (Milestone: Completed by Month 1).

**Implementation Phase**:

* Install new hardware, upgrade the network, and deploy software solutions.
* Key Deliverable: Fully operational IT infrastructure (Milestone: Completed by Month 6).

**Testing and Validation Phase:**

* Perform comprehensive testing, including system integration and user acceptance tests.
* Key Deliverable: Validation reports and user feedback (Milestone: Completed by Month 7).

# **Training and Deployment Phase:**

* Train hospital staff and deploy the IT systems.
* Key Deliverable: Staff trained and systems deployed (Milestone: Completed by Month 8).

# **Post-Deployment Support:**

* Provide ongoing support and maintenance to ensure system stability.
* Key Deliverable: Established support channels (Milestone: Ongoing from Month 9).

## **3.2. Timeline and Milestones**

**Project Start Date: Month 1**

**Key Milestones:**

* Planning completed (Month 1)
* Hardware and software implementation completed (Month 6)
* System testing and validation completed (Month 7)
* Staff training and full deployment (Month 8)

**Project Completion Date:** Month 8

# **4. Funding Model**

## **4.1. Funding Sources**

* **Government Grants**: Applying for healthcare IT project grants.
* **Private Sector Investment**: Partnering with technology companies for hardware donations or sponsorships.
* **Hospital Budget Allocation**: Internal funds allocated for the project (R6,000,000).

## **4.2. Cost Justification**

* **Return on Investment (ROI)**: The investment will improve operational efficiency, reduce downtime, and enhance patient care, leading to long-term cost savings.
* **Sustainability**: The funding model ensures that the hospital can maintain and upgrade the systems as required.

## **4.3. Long-Term Financial Planning**

* **Operational Costs**: Forecasted to be R500,000 annually for maintenance and support.
* **Revenue Projections**: The hospital anticipates increased revenue through improved service delivery and patient satisfaction.