



JOMO KENYATTA UNIVERSITY OF AGRICULTURE AND TECHNOLOGY

ICT DIRECTORATE

ICT AUTOMATION POLICY AND STRATEGY



JKUAT is ISO 9001:2008 Certified

Setting Trends in Higher Education, Research and Innovation

FOREWORD

Jomo Kenyatta University of Agriculture and Technology (JKUAT) prides itself as University of global excellence in training, research and innovation for development.

In order to sustain its focus of global excellence and manage for sustained continual improvement, JKUAT acknowledges the role of Information and Communication Technology (ICT). It recognizes and embraces the need to strategically develop and improve its ICT environment.

To meet the strategic interests of the University in it's with the global vision and the strategic plans (2009-2012 and 2012-2017), this Automation Policy and Strategy is drawn to facilitate implementation of a robust ICT environment, manage it for sustained quality and chart a clear path to achieve this effectively and efficiently.

Prof. Mabel Imbuga, Ph.D., EBS
Vice Chancellor



JKUAT is ISO 9001:2008 Certified

Setting Trends in Higher Education, Research and Innovation

1. ACKNOWLEDGEMENT

The support of the University Management Board, University Senate and the Deans Committee is highly appreciated. The enthusiastic support by the Vice Chancellor and the Deputy Vice Chancellor (Academic Affairs) is highly commended.

The team of Dr. Muliaro J. Wafula, ICT Director, Dr. John Kihoro, Manager, e-Learning, B. M. Kiula, Head of Research, Consultancy and Training, ICT Directorate, Dennis Mugambi, Head of Infrastructure and Support Services, ICT Directorate, Pascal Ouma, Head of Information Systems, ICT Directorate, Caroline Wambugu, ICT Officer, ICT Directorate, Celia Mwari, Administrative Assistant, ICT Directorate played a defining role in the development the automation policy and strategy.



JKUAT is ISO 9001:2008 Certified

Setting Trends in Higher Education, Research and Innovation

TABLE OF CONTENTS

FOREWORD	2
1. ACKNOWLEDGEMENT	3
TABLE OF CONTENTS.....	4
1. PREAMBLE.....	6
2. NEED FOR AUTOMATION.....	6
3. OBJECTIVES	7
4. ASPECTS	8
4.1. INFRASTRUCTURE	8
4.1.1. Strategic Commitment on ICT Infrastructure	8
4.1.2. Strategic Targets on ICT Infrastructure.....	8
4.2. INFORMATION SYSTEMS.....	9
4.2.1. Strategic Commitment on Information Systems	9
4.2.2. Strategic Targets on Information Systems.....	10
4.3. RESEARCH, CONSULTANCY AND TRAINING	11
4.4. PEOPLE, SKILLS AND USER SUPPORT	11
4.4.1. People and Skills	11
4.4.2. User Support and Expectation Management	12
4.5. PROJECT MANAGEMENT.....	12
4.6. INFORMATION SECURITY, RISK MANAGEMENT, DISASTER RECOVERY AND BUSINESS CONTINUITY	13
4.7. POLICIES	13
4.8. STANDARDS.....	13
5. STRATEGY.....	14
6. RESPONSIBILITY, IMPLEMENTATION AND REVIEW	14
6.1. Responsibility	14
6.2. Implementation	14



JKUAT is ISO 9001:2008 Certified

Setting Trends in Higher Education, Research and Innovation

6.3. Review 15

7. ANNEXES 16

7.1. ANNEX 1: AUTMATION POLICY AND STRATEGY IMPLEMENTATION PLAN..... 16

7.2. ANNEX 2: REVISION STATUS 20

7.2.1. Revision History 20



JKUAT is ISO 9001:2008 Certified

Setting Trends in Higher Education, Research and Innovation

1. PREAMBLE

Jomo Kenyatta University of Agriculture and Technology envisions itself as a university of global excellence in training, research and innovation for development. The University also acknowledges its special role in helping the Nation to achieve its dream as articulated in the Kenya Vision 2030 as well as the need to contribute in training, research and innovation to advance the cause of humanity in a dynamic world.

The University through the ICT Directorate has therefore endeavoured to automate its systems for effective and efficient service delivery to internal customers, the students, the public and other stakeholders. This policy constitutes the plan intended to influence and determine decisions and actions towards the automation of the University system and processes.

The ICT Directorate has been systematically transformed since 2009 to be better able to meet the needs of the University and its stakeholders with clear management structures and reporting mechanisms including the departments of Infrastructure and support services; information systems and the research, consultancy and training.

The future of the University lies in the full utilization of the ICT Directorate structures and the adoption and employment of a clear, deliberate and strictly followed automation policy and strategy with the blessing and support of the University top management.

This automation policy and strategy is aimed at making the adoption and use of ICT as an enabler and revenue generator in the University more proactive; a result of strategic intent, planning and execution than sporadic and reactionary response to pressures while remaining agile in the dynamic ICT environment.

2. NEED FOR AUTOMATION

The University's desire for automation is driven by the following profound reasons:

1) Automation, Re-engineering and Transformation

As the University continually improves its ICT systems through automation of processes and process activities; attention shall be accorded to the consistent re-engineering for improved efficiency and effectiveness while also transforming the internal culture and environment.

2) Confidentiality, Integrity and Availability

The automated and ICT installations must assure of confidentiality and integrity of University systems, data and information (as well as the data and information of its students, staff and other stakeholders) while also ensuring the availability of these systems, data and information for seamless and uninterrupted operations.

3) Reliability

The automation, re-engineering and transformation of University operations through ICT shall assure the ability of the systems, subsystems/modules or components to



JKUAT is ISO 9001:2008 Certified

Setting Trends in Higher Education, Research and Innovation

perform their required functions under stated conditions for a specified periods of time.

4) Repetitive Tasks

A number of University processes and process activities are repetitive. When performed by human labour, it can be very boring and repetitive work done by humans can be error prone. Automated systems can perform these tasks accurately and at high speed.

5) Faster Decision Making

The ability of a control system to respond quickly to changes means that the University processes can operate at higher speeds with fewer delays, increasing the ability to offer effective and efficient services.

6) Increased Safety

Automating dangerous and hazardous tasks reduces risk of injuries to human workers. While the University reinforces research, innovation and technology transfer it has developed several initiatives such as engineering workshops, production of chemistry products, processing of agricultural products among others for which automation is necessary.

7) Cost Reduction

Automated systems are more predictable in operations and have more consistent operating costs. They also provide enhanced control of over consumption and waste of materials.

8) Quality Control

Greater consistency of processes and services is achieved with precise actuators in automated systems.

9) Productivity Gains

Automated University processes can operate continuously. They do not need rest, meal breaks, annual holidays, sick leave among others. Automated systems can therefore be more productive including processing of academic matters such as examinations, notifications to students and lecturers, updates to status of students and staff among others.

3. OBJECTIVES

The automation policy and strategy is put in place with the following objectives:

- 1) To facilitate improvement of the level of automation on the basis of the annual automation survey reports.
- 2) Strategically improve:
 - a. efficiency and effectiveness,
 - b. service delivery and customer communication,
 - c. internal communications and
 - d. seamless management



JKUAT is ISO 9001:2008 Certified

Setting Trends in Higher Education, Research and Innovation

- 3) Reinforce business process re-engineering and change management;
- 4) Help to build infrastructure and implement information systems cost-effectively and in an orderly manner;
- 5) The need eliminate unnecessary repetitive, resource-wasteful, labour intensive, computer-based activities that are expensive, time-consuming and error-prone.

4. ASPECTS

4.1. INFRASTRUCTURE

4.1.1. Strategic Commitment on ICT Infrastructure

The University shall continue to invest in its cabled and wireless networks and related switches in response to anticipated growth in voice, video, data and other network traffic.

The University shall maintain a fit-for-purpose, resilient and secure network infrastructure; shall take a proactive approach to network capacity provision and present and future demands on that capacity; and shall be mindful of future technological developments in relation to best practice.

The University shall also maintain fit-for-purpose hardware and server infrastructure; and shall take a proactive approach to future technological developments in relation to best practice.

The University shall maintain support for Unix/Linux and Windows operating systems. The choice of operating system for servers shall be driven primarily by the requirements of the applications hosted on each server.

The University shall take account of, and involve in its hardware infrastructure, environmental concerns, especially with regard to power usage and energy consumption.

The University recognizes the critical role played by infrastructure and seeks to acquire and implement it taking cognisance of the current and future needs.

4.1.2. Strategic Targets on ICT Infrastructure

The key elements of the infrastructure include fibre-optic backbone, inter-campus connectivity, wireless connectivity, ICT research and innovation facilities, business continuity and disaster recovery, servers and office and personal computing devices.

The University shall acquire and lay ICT infrastructure as follows:



JKUAT is ISO 9001:2008 Certified

Setting Trends in Higher Education, Research and Innovation

- 1) Extension of the fibre-optic back-bone from the Nerve Centre to the major administrative, academic and research buildings (both existing and up-coming), halls of residence, health, student and staff recreation facilities;
- 2) Utilize virtual private networks (VPNs) for inter-campus connectivity for all JKUAT campuses locally and internationally;
- 3) Extend wireless Internet hotspots within the Main Campus, existing and upcoming campuses for common students and staff facilities including libraries, recreation facilities and common rooms;
- 4) Develop ICT laboratories and lab infrastructure to support high-end ICT innovations and products;
- 5) Systematically acquire server facilities to support institution mail systems, information databases, application systems, Internet proxies and routing facilities;
- 6) Implement infrastructure to facilitate business continuity and disaster recovery processes;
- 7) Implement IP telephony in the University including the campuses;
- 8) Acquire, configure and install office and personal computing facilities including personal computers, laptops, printing, photocopying, scanning and projectors to ensure effective execution of duties;
- 9) Electronic access control systems into critical facilities;
- 10) CCTV for movement tracking and recording.

4.2. INFORMATION SYSTEMS

4.2.1. Strategic Commitment on Information Systems

The University shall maintain fit-for-purpose applications and resilient information architecture; shall seek to establish effective integration of information provision; and shall take a proactive approach to future technological developments in relation to best practice.

The University shall regularly review its applications to ensure that they are secure, easy to use, available, and fit-for-purpose with appropriate levels of interoperability and data exchange mechanisms.

The University shall aim to consolidate and converge onto an appropriate range of technologies so that the University can focus its IT personnel on delivering high quality services to their users.

The University shall use modern and appropriate technologies for user access to core applications where this is feasible. To this end, the University shall seek to adapt or



JKUAT is ISO 9001:2008 Certified

Setting Trends in Higher Education, Research and Innovation

replace core applications so that users will be able to access, enter or change information as appropriate using an appropriate technology. All future investments in new applications will be supported by a full business case.

Both ICT and user departments shall resource project teams fully when implementing new applications, modules or functionality. Project managers shall be supported by top management to ensure that implementation projects are completed successfully.

The University shall use appropriate reporting tools that can meet the data and information needs of operational, tactical and strategic levels.

The University shall invest in its existing administrative systems to ensure that they realise their potential and continue to add value to administrative processes. Particular attention shall be paid to improving the quality of University administrative data and data management: adding clarity to who owns it, who maintains it and who may use it.

4.2.2. Strategic Targets on Information Systems

The University shall systematically implement information systems that are seamlessly integrated to ensure effective service delivery, sharing of information, decision-making and reporting.

This shall be achieved through:

- 1) Implementation of enterprise resource planning systems covering:
 - a. financial management,
 - b. inventory and procurement management,
 - c. asset management,
 - d. academic management (including student information management systems)
 - e. human resource management
- 2) Hospital and medical records management;
- 3) Review and enhancement of the electronic system to manage documentation of the JKUAT Quality Management System (eQMS);
- 4) Review and enhancement of the Help Desk administration system to facilitate effective of user support operations in the University;
- 5) Review and enhancement of the JKUAT examinations processing systems;
- 6) Upgrade and implement effective institution mail management systems.
- 7) Library management system,
- 8) Learning management system,
- 9) Institution repository system,



JKUAT is ISO 9001:2008 Certified

Setting Trends in Higher Education, Research and Innovation

- 10) Lime-survey system,
- 11) Anti-plagiarism system,
- 12) Research management information system,
- 13) Students online services,
- 14) Document tracking system,

4.3. RESEARCH, CONSULTANCY AND TRAINING

The ICT Directorate intends to reinforce research, training and consultancy efforts in a bid to develop conceptual and hands-on skills to support the automation processes, activities and revenue generation. This shall be achieved through:

- 1) Development and deployment of user trainings for existing and upcoming systems in the University;
- 2) Conducting user surveys to identify areas of skills deficit in line with the University automation objectives and develop mechanisms to address the gaps;
- 3) Facilitating proper documentation of ICT systems for user reference, on-the-job training, and continued review and enhancement of the systems;
- 4) Facilitating development and review of systems development reports to support decision-making in the University management.
- 5) Development and review of ICT policies, strategies and implementation plans.
- 6) Facilitating the adoption, implementation and conformity to standards and best practices in core areas including project management, information security, ICT service delivery, business continuity and disaster recovery among others.
- 7) Development of manuals, policies, strategies.
- 8) Conduct/facilitate relevant research and innovation in the ICT Directorate.

4.4. PEOPLE, SKILLS AND USER SUPPORT

4.4.1. People and Skills

The University shall ensure that staff members are provided with opportunities to develop and sustain their skills and technical knowledge as appropriate to the purposes of their individual jobs.

The University shall ensure that ICT staff work in partnership and collaboration with its other Departments to support the research, training and innovation activities including the Academic Division, Administration Planning and Development as well as Research, Production and Extension.

The University shall also ensure that staff and students are trained to be better able to use systems that are implemented and deployed in the University's strategic interests.



JKUAT is ISO 9001:2008 Certified

Setting Trends in Higher Education, Research and Innovation

To protect its investment in staff training and to retain the “corporate memory”, the University shall invest time in defining and documenting all of its critical business processes.

The University shall also seek ways of cascading knowledge gained from training and know-how built up from practitioners’ experience throughout service and administration departments.

4.4.2. User Support and Expectation Management

The University shall continue to provide a user support services to students and members of staff. The services shall focus on:

- i. maintaining high levels of responsiveness
- ii. managing and meeting customer expectations
- iii. maintaining technical skills
- iv. applications and software support
- v. special needs support
- vi. media services
- vii. training and documentation
- viii. staff and skills development

This services shall assume responsibility for coordinating the support for core applications including handling users’ requests for help; forwarding requests to in-house knowledgeable staff; knowledge transfer between knowledgeable user staff and ICT staff members; and liaising with application providers’ helpdesks.

It is acknowledged that the expertise and technology of ICT services has a major positive role to play in the development of internal communications across staff and student communities.

The ICT Directorate must meet its customers’ expectations in terms of responsiveness, quality, effectiveness and efficiency. In order that customer expectations can be managed and performance measured, the ICT Directorate shall define and agree the services and service levels provided to each of its customer groups. Thereafter, the ICT Directorate shall review its performance with both its customers and the University top management team periodically.

4.5. PROJECT MANAGEMENT

Experience, best practice and the review of past projects have shown that ICT projects best deliver best results when project management standards and practices are employed.

All ICT projects shall be managed according to best practices in project management. All completed, significant ICT-led projects shall have post-implementation reviews.

A “needs and options” feasibility study shall be conducted as part of formal project management methods.



JKUAT is ISO 9001:2008 Certified

Setting Trends in Higher Education, Research and Innovation

Both ICT and user departments shall resource project teams fully when implementing new applications, modules or functionality. Project managers shall be supported by the top management to ensure that implementation projects are completed successfully (i.e. on time, to budget, to the agreed level of quality, and with the anticipated realised outputs and benefits).

The University shall ensure that every project is approved as a complete set that delivers the result expected by the end-user albeit in a logically phased approach. All ICT projects shall be managed by staff with skills in project management.

All systems whether internally or externally developed, shall upon approval for use in the University be handed over to the ICT Directorate which shall play its role as the custodian and the user department.

Every service supplied by an external entity shall upon completion of implementation be managed through a well documented and enforced service level agreement.

4.6. INFORMATION SECURITY, RISK MANAGEMENT, DISASTER RECOVERY AND BUSINESS CONTINUITY

The University is committed to ensuring that the information it manages is appropriately secured to protect against the consequences of breaches of confidentiality, failures of integrity or interruptions to the availability of that information. The existing ICT facilities, servers and network infrastructure in particular, have been designed and procured to provide the greatest possible resilience and reliability. However, the JKUAT Information Security Policy (JISP) and JKUAT Electronic Payments Systems Policy (JEPS) highlighted in Section 4.7 need to be implemented and the standards in Section 4.8 adopted. The University shall produce an overall business continuity plan that shall inform ICT disaster management planners.

4.7. POLICIES

The University recognizes the important role played by ICT policies to guide the effective and efficient utilization of ICT resources. ICT policies shall be developed and/or reviewed for continued suitability:

- 1) JKUAT Information Security Policy (JISP)
- 2) JKUAT Electronic Payments Systems Policy (JEPS)
- 3) Other policies in response to the dynamic ICT environment.

4.8. STANDARDS

To back up the automation of the University, acceptable standards and benchmarks are considered critical to facilitate the establishment of state-of-the-art ICT environment in the University. To this end the following shall be pursued:

- 1) Implementation of systems and management of ICT processes within the guidelines of the JKUAT Quality Management System and ISO 9001;



JKUAT is ISO 9001:2008 Certified

Setting Trends in Higher Education, Research and Innovation

- 2) Systematic adoption of best practices in the management of the security of ICT systems and processes leading to certification under ISO 27001 on Information Security Management Systems;
- 3) Systematic adoption of best practices in the management of ICT service delivery systems and processes in line with ISO 20000 on ICT service management.
- 4) Systematic adoption of best practices in the management disaster recovery and business continuity management systems and processes in line with ISO 25999 on business continuity management.
- 5) Adoption and reinforcement of skills in specialized areas including ITIL, CISA, COBIT among others.

5. STRATEGY

The accomplishment of the automation policy and strategy requires approximately KES 647 Million. To meet the financial needs of the Automation Policy and Strategy, the following strategies shall be utilized for the strategy period (2011/2012 to 2016/2017):

- 1) The University Management shall increase the budgetary allocation for ICT development by 10% annually.
- 2) The University and each campus/centre shall provide for ICT development from the the revenue generated.
- 3) The University shall facilitate mutually beneficial partnerships and collaborations for the continual improvement of the ICT capacity and service delivery.
- 4) The ICT Directorate shall develop innovative solutions to meet the University ICT needs especially in the information systems segment and these shall be embedded and monitored under the PC guidelines.
- 5) The ICT Directorate shall facilitate the adoption of better and financially viable solutions for major projects especially the offsite data centre for disaster recovery and continuity.
- 6) The ICT Directorate shall employ best practice in the management of the ICT projects to ensure that the users realize the intended outputs.

6. RESPONSIBILITY, IMPLEMENTATION AND REVIEW

6.1. Responsibility

The ICT Director in conjunction with University Management shall be responsible for the implementation, monitoring and evaluation of the automation policy and strategy.

6.2. Implementation

This automation policy and strategy is intended to guide in the development of an effective and efficient ICT environment in JKUAT and its campuses. The policy and strategy is a general pointer in the University automation path and shall be supplemented by the respective project plans, annual work plans, procurement plans, and performance contracts.



JKUAT is ISO 9001:2008 Certified

Setting Trends in Higher Education, Research and Innovation

6.3. Review

It is also informed and complimentary to the JKUAT Strategic Plan 2009-2012 and the incoming Strategic Plan 2012-2017 and shall be reviewed bi-annually for suitability and alignment with the evolving University and the dynamic world.



JKUAT is ISO 9001:2008 Certified

Setting Trends in Higher Education, Research and Innovation

7. ANNEXES

7.1. ANNEX 1: AUTMATION POLICY AND STRATEGY IMPLEMENTATION PLAN

Strategic Item/Project	Description	Cost Est. & Status	Quick Win	2011/12	2012/13	2013/14	2014/15	2015/16
Network Infrastructure								
Network Upgrade Phase I	JKUAT Main Campus (Upgrade and new installations)	120 Million; Tender Advertised	x	10,000,000	20,000,000	30,000,000	30,000,000	30,000,000
Network Upgrade Phase II	Nairobi CBD, Nairobi Campus, Karen Campus, Mombasa CBD, Kitale, Kisii, Nakuru, Kakamega, Arusha	100 Million; Tender Advertised	x	20,000,000	20,000,000	20,000,000	20,000,000	20,000,000
IP PABX Phase I	JKUAT Main Campus	30 Million; Concept approved by Senate	x	10,000,000	10,000,000	10,000,000		
IP PABX Phase II	Nairobi CBD, Nairobi Campus, Karen Campus, Mombasa CBD, Kitale, Kisii, Nakuru, Kakamega, Arusha	20 Million		5,000,000	10,000,000	5,000,000		
Bandwidth Upgrade Phase I	60 MB Main Campus	1.1 Million/month; Approved by UMB	x	13,200,000	13,200,000	13,200,000	13,200,000	13,200,000
Bandwidth Upgrade Phase II	10 MB Karen, Taita, Nairobi and 4 MB Nairobi CBD, Mombasa CBD, Kitale, Kisii, Nakuru, Kakamega	1 Million/month		12,000,000	12,000,000	12,000,000	12,000,000	12,000,000
Wireless Connectivity Phase I	Halls of residence, New Science Complex, Students Centre, Assembly Hall, NSC Lecture Theatres, SCC 100 and ICSIT	12.3 Million; Tender Awarded, Lantech	x	12,300,000				
Wireless Connectivity Phase II	Mombasa CBD, Nairobi CBD, Karen, Nairobi, Kisii, Kitale, Kakamega and Nakuru	20 Million			5,000,000	10,000,000	5,000,000	



JKUAT is ISO 9001:2008 Certified

Setting Trends in Higher Education, Research and Innovation

Automation Policy and Strategy Ver. 0.6 October 12th, 2011

ICC Phase II	Kisii, Nakuru, Kakamega, Nairobi CBD	3.5 Million			1,000,000	1,000,000	1,000,000	500,000
ICC Phase III	Arusha	2 Million						
Innovation Centre		10 Million; Concept approved by UMB			10,000,000			
Servers	Seven servers for e-Learning, Library, Internet, Testing	3.5 Million		1,000,000		1,000,000		1,500,000
Network Core switch	Main Campus	8 Million; Tender Awarded – Getstalt Guild		8,000,000				
CCTV Phase I	Installations in the Main Campus Library	3.3 Million; Tender Awarded in January – AUA Industrial; Contract awaiting			3,300,000			
CCTV Phase II	Other core installations on Main Campus	7 Million					3,500,000	3,500,000
Video Conferencing	Main Campus	4 Million			2,000,000	1,000,000	1,000,000	
Access Control System	Main Campus	20 Million					10,000,000	10,000,000
Computers	Increase computer: student ratio			10,000,000	10,000,000	10,000,000	10,000,000	10,000,000
Information Systems								
HRMIS	Automation, re-engineering and transformation of human resource management	10 Million; Tendering level		10,000,000				
eQMS Enhancement	QMS Management progression from document viewing to facilitation of management review, audit and monitoring	0.5 Million			200,000	200,000	100,000	
Examinations Management	Examinations processing system – management of lifecycle and migration	2 Million		2,000,000				
ERP Phase II	Point of Sale (POS), Assets and Inventory Management	0.3 Million		300,000				



JKUAT is ISO 9001:2008 Certified

Setting Trends in Higher Education, Research and Innovation

Automation Policy and Strategy Ver. 0.6 October 12th, 2011

CRM Phase II	Roll-out to other campuses under the ICC	1 Million			1,000,000			
Students Online Services	Access to statements and balances online/mobile	0.5 Million	x	500,000				
Helpdesk System	Development and deployment of a user interface for logging in of service requests	0.2 Million	x		200,000			
University Website Upgrade	Maintain it abreast of changes and quality Internet presence demands		x	720,000	600,000	600,000	600,000	600,000
Adoption of Google Apps for students and staff email	Cover all students and staff e-mail service and unlimited storage capacity		x	200,000				
Library Management System (KOHA)	Training, deployment and handover of KOHA LMS	0.3 Million	x	300,000				
Institution Repository System	Repository of quality research results and outputs for access by the global community	0.4 Million				400,000		
Research Management Information Systems (RMIS)	Management of research activities within the University community	0.2 Million		200,000				
Lime Survey System	Facilitate customer feedback and surveys (students lecturer/facility, work environment, employee, customer satisfaction)	0.3 Million		300,000				
Anti-Plagiarism System	Protection of IP and improvement of quality of academic/research outputs	0.5 Million				500,000		
Document Tracking System	Capture comments and flow of documents through the approval trail	0.1 Million		100,000				
Hospital Management System		7 Million		3,000,000	2,000,000	2,000,000		
Information Security Management Systems (Risk Management, Disaster Recovery and Business Continuity)								
Offsite Data Centre	One site; to be identified	50 Million				30,000,000	10,000,000	10,000,000
Backup Bandwidth	5MB for JKUAT Main Campus, 1MB for each of all the other campuses	0.2 Million and 0.1 Million/month		1,400,000	1,200,000	1,200,000	1,200,000	1,200,000
Antivirus	Securing PCs, Servers, Systems and other hardware/software from malware			5,000,000	5,000,000	5,000,000	5,000,000	5,000,000
Staff Capacity Development								



JKUAT is ISO 9001:2008 Certified

Setting Trends in Higher Education, Research and Innovation

Automation Policy and Strategy Ver. 0.6 October 12th, 2011

Network Administration	Network administration, design, performance optimisation, troubleshooting, technical support, security and growth	0.4 Million		100,000	100,000	100,000	100,000	
Database Administration	Design, development, performance optimisation, integration, security and growth	0.3 Million		50,000	50,000	100,000	100,000	
Business Continuity Management	Disaster management, recovery and continuity of critical ICT services and functions	0.2 Million				200,000		
Information Systems Audit	Risk assessment, mitigation and/or treatment	0.3 Million			100,000		100,000	100,000
IT Service Management	Best practices in management of multi-user and multi-system/service ICT service environment	0.3 Million		100,000		100,000	100,000	
Open Source Systems	Development, customisation and deployment of open source software (KOHA, Moodle...)	0.2 Million				100,000		100,000
TOTAL PER YEAR				122,770,000	127,950,000	153,700,000	125,000,000	117,700,000

The annual operation and maintenance costs as well as any post-implementation costs shall be worked out and embedded in the annual ICT budget.



JKUAT is ISO 9001:2008 Certified

Setting Trends in Higher Education, Research and Innovation

Automation Policy and Strategy Ver. 0.6 October 12th, 2011

7.2. ANNEX 2: REVISION STATUS

7.2.1. Revision History

Revision Date	Version	Description
September 6, 2010	0.1	Initial Draft
September 7, 2010	0.2	Edit
July 20, 2011	0.3	Review & Edit
July 21, 2011	0.4	Review & Edit
September 6, 2011	0.5	Review and approval, Deans Committee
October 12, 2011	0.6	Review and approval, Senate



JKUAT is ISO 9001:2008 Certified

Setting Trends in Higher Education, Research and Innovation