NEW MEXICO
HIGHER EDUCATION
DEPARTMENT

Capital Outlay Request Report

016 - Infrastructure Upgrades

Business Case Status

Pending Start

Request

Institution	New Mexico State University ⌄
Project Title	Infrastructure Upgrades

Building	Building Age	Building GSF

Project Location		**Project Map**	**Project Map Link**
FY Priority #	4	**Master Plan Priority #**	4
Total Project Cost	$7,500,000	**State Funding Request**	$1,500,000
Committed Match Funding	$0	**Match Funding Source**	N/A
Construction Type	Renovation		

Previous Request Summary
The initial data infrastructure project was presented at the 2019/FY21 Yearly Capital Projects Summer Hearings for Capital Funding. The relocation of the secondary data center out of Milton Hall project was approved for general obligation bond funding for $3,000,000. The 2020 GOB funding is expected in July 2021. An additional phase to continue the Data Center Infrastructure Upgrades project was presented at the 2020 Summer Hearings for Capital Funding for FY21 Severance Tax Bond funding for $1,516,000. This NMSU Request was the third priority for the main campus, and it was not part of the recommendations by HED and LFC. The current request will be an infrastructure upgrade project for data center infrastructure and mechanical system improvements as a result of findings from a recent Facilities Condition Assessment and HVAC deficiencies, along with return to campus efforts for classroom activities.

History of Facility
Information and Communication Technologies (ICT) Computer Systems' (CS) role is to design, procure, implement and maintain computer hardware, server software, IT security, data centers and database configurations for NMSU as an "always available" administrative service. These include all computer servers (hardware, operating system, programming and authentication) supporting the primary business and administrative applications for NMSU. CS installs, configures, and maintains the databases that hold all of the business and administrative data for NMSU. ICT provides backup and recovery services for all administrative data and servers. This includes both primary and disaster recovery backups. We also provide server administration, database support and backup/recovery services to departments, colleges and branch campuses across NMSU, on a contract Information and Communication Technologies (ICT) Computer Systems' (CS) role is to design, procure, implement and maintain computer hardware, server and application software, networking, IT security, data centers and database configurations for NMSU as an "always available" administrative service. These include all computer servers (hardware, operating system, programming and authentication) supporting the primary business and administrative applications for NMSU. ICT provides high speed network connectivity to all the campuses and Internet. ICT installs, configures, and maintains the databases that hold all of the business and administrative data for NMSU. ICT provides backup and recovery services for all administrative data and servers. This includes both primary and disaster recovery backups. ICT also provide server administration, database support and backup/recovery services to departments, colleges and branch campuses across NMSU, on a contract basis.

Current Condition
ICT has two data centers: ICT Building and Milton Hall. Both house critical servers, storage and core network equipment. Milton Hall Data Center is the smaller and the older one of the two, and there is a project to relocate this secondary data center with expected funding in July 2021. NMSU relies on both data centers to provide reliable IT services. Students' requirement for more network bandwidth as they are increasingly reliant on the NMSU network to meet their education and entertainment needs. The requirement for improving and investing in supporting technologies, such as security appliances, higher bandwidth networks, and greater server processing capabilities. NMSU is currently working with Architectural Research Consultants (ARC) to conducting Facilities Condition Assessments (FCA) off selected NMSU buildings. One major deficiency to the performance of the building is the mechanical and ventilation systems throughout the facilities campus-wide.

Renovation Information
No last major renovation for the data centers. As part of its internal IT governance and project planning/prioritization efforts, ICT has developed a project portfolio that identifies the major projects that the department is currently engaged in/will be engaged in within the next year. Projects are categorized by level of priority. The Student Technology Fee is the funding source for ICT projects. Funding from Building Repair & Renewal for FS Operations and Maintenance projects are repairs and replacement.

Scope of Work
The global health pandemic has brought to light the importance of IT infrastructure upgrades to support virtual teaching and learning to meet short-term and long-term distance education needs for the institution. In addition to the IT support requirements for a digital future, indoor air quality in buildings on campus is also a new focus in the post-pandemic world. This project will be an on-going recurring request in order to keep facilities on campus open, safe and improving learning experiences by investing in technological infrastructure. One year ago NMSU completed a HVAC Assessment for the Las Cruces campus. In an effort to responsibly prepare for the return to campus Fall 2020 semester, Facilities and Services embarked on a mission to perform a Phase-1 HVAC Condition Assessment of buildings identified for classroom activities. The objective of the study is to identify baseline HVAC operational parameters, equipment deficiencies and considerations toward implementation of filtration and germicidal mitigation technologies. The effort is primarily focused on creating a safer campus experience for Students, Faculty and Staff. This report provides the results of the field assessments for 34 buildings, 111 Central Air Handling Units, 152 Room Terminal Units and lists recommendations focused on air quality improvements that best suits each building function. The findings for the initial 22 buildings across campus revealed an overall theme of identified deficiencies for mechanical equipment that is in poor condition; inadequate heating and cooling systems; ventilation pathways not configured for minimum outside air; and issues with existing mechanical design for proper air volume. This project will update the mechanical system for current codes and standards per the assessment. In addition to HVAC improvements to begin to address the mechanical deficiencies campus-wide, this infrastructure project will make a portion of the next phase to the Milton Hall Data Center relocation funded project. The IT upgrades portion of this request will replacement of data center infrastructure, data center computer systems and network equipment, and short-distance and long-distance fiber infrastructure. For data center improvements and upgrades, this is the next phase of the Data Center Infrastructure project. The key components of the Data Centers infrastructure and hardware are new generator, UPS battery replacement and fiber DWDM equipment replacement for short-distance and long-distance fiber routing. Upgrades of the data center computer systems and network equipment will replace outdated and deficient systems and create technology for today's learning environment. Potential upgrades include replacement of network routers and switches, computer hardware and storage, backup hardware for disaster recovery using DoIT (Department of Information Technology) Data Center in Santa Fe as a remote disaster recovery site. Upgrades of the campus short-distance fibers between the primary and secondary data centers and upgrades of the long-distance fibers from Las Cruces, Albuquerque and Santa Fe are essential to maintain the connectivity among higher educational institutions and state entities.

Phases

Complete table if this project request contains multiple projects or if the project can be phased. List in priority order:

Phase #	Description	Part of Request	Amount	Start Date	End Date
1	Data Center Infrastructure Upgrades	☐	$3,000,000.00	7/1/2021	8/31/2023
2	Infrastructure Upgrades	☐	$1,500,000.00	7/1/2023	2/28/2025
3	Infrastructure Upgrades	☐	$3,000,000.00		
4	Infrastructure Upgrades	☐	$1,500,000.00		

Students Impacted

Provide the instructional program majors being served by this project:

Major	HeadCount	FTE	% Growth Last Year	% Growth Average

Enrollment

Provide Fall Semester enrollment data per year as reported on the NMHED website/eDEAR:

Year	FTE	OFTE
2013	16754	2142
2014	15821	2047
2015	15484	1985
2016	14826	1753
2017	14445	1627
2018	14297	1708
2019	14274	1792
2020	14216	4912

B. Project Rationale and Need:

Measure B1: Projects promotion of enrollment growth, retention, and degree production

B1 Score — Substantially ▾

B1 Explanation — Today's students are increasingly connected to the world and to learning through technology. Keeping up with the technological infrastructure will help to keep students in school and focused on graduation, and will prepare them for their future working environments. Students are using technology as tool, as well as communicating with others. Information technology is used to support student learning, transmit information to and from faculty, and informs decisions. Improvements will be to the information technology system campus-wide to replace outdated or deficient systems and create technology for today's learning environment. Why Invest? An annual capital investment allows ICT to target services in most need of enhancement, elimination or replacement, and to reduce near term exposure and risk. A capital investment plan will refresh the technology and decrease operational deficiencies. NMSU's technology must evolve and keep pace with technological advances in order to continue to provide the services users within the university need to provide the basis for delivering new services in the future. When equipment is purchased it is consistent with industry standards and practices, and represents the most practical advanced technology available. The pace of technology improvement has quickened and the goal is to get the most of our hardware and software purchases but to only change technology when it represents a clear technological advancement, needed performance increase or reliability improvement for NMSU. Information Technology is critical to the university and fundamental to the success of administration, research, teaching, and learning. The goal of ICT Computer Systems is to continue providing seamless, pervasive and exceptional services for the university community.

Measure B2: Projects impact on education and workforce needs in local and regional economies

B2 Score — Substantially ▾

B2 Explanation — NMSU data centers are major Internet hubs and telecommunication aggregation points for southern New Mexico because NMSU helps operate the CHECS (Council for Higher Education Computing/Communication Services) Consortium, which connects many higher education institutes and K-12 schools within New Mexico. This data center is very critical not only to NMSU but to many educational institutions that rely on NMSU as the Internet hub. Through these data centers, NMSU also provides network/Internet connectivity to NMDA and Cooperative Extension Service offices in addition of serving as a disaster recovery site for the NM Department of IT mainframe. This kind of collaborative initiatives can be extended to the government entities and educational institutions if we have a proper Data Center, where all services in the NMSU's Milton Hall Data Center can be moved to. Even though, the cloud service technologies may be leveraged to off-load the on premise Data Centers, the biggest challenge still remains and that is the high-speed connectivity to the cloud. Rural New Mexico do not have good enough Internet connectivity to connect to the cloud reliably. Therefore, having an anchor institution like NMSU to be an Internet hub and an aggregation point to bridge our community to their cloud services has proven to be a successful venture. In order to meet the increased demand for online/virtual mode of instruction and business communication, the university must repair and maintain their data centers. This project will support both on-campus and off-campus instruction, which produce the staff and support that make up the local and regional economies.

Measure B3: Projects support of HEI Strategic Plan or Facility Master Plan

Demonstrate project alignment with institutional mission and how project advances the institution's strategic or facility master plan.

B3 Score — Substantially ▾   **Master Plan**   **Master Plan Link**

B3 Explanation — NMSU LEADS 2025 Mission: The mission of the New Mexico State University system is to serve the diverse needs of the state through comprehensive programs of education, research, extension and outreach, and public service. As the state's land-grant and space-grant university, and as a Hispanic- Serving Institution, NMSU fosters learning, inquiry, diversity and inclusion, social mobility, and service to the broader community. Vision: By 2025, the NMSU system will excel in student success and social mobility for our diverse student populations, achieve the highest Carnegie research status (R1), and maintain our Carnegie Community Engagement classification. Values: NMSU LEADS ? Leadership: Promoting and creating the ability for Aggies to shape the future ? Excellence: providing the highest level of education, research, outreach, and service ? Access: Welcoming diverse populations to higher education and to the NMSU community ? Diversity & Inclusion: Embracing our differences as an asset and actively seeking to include wide-ranging perspectives ? Student-centered: Supporting the education of our students through every aspect of our university every dayNMSU Strategic Goals Goal 1: Enhance Student Success & Social Mobility Student success across the NMSU system is driven by a commitment to learning, degree completion, and career attainment enriched by our research and outreach enterprise. NMSU Strategic Goals Goal 1: Enhance Student Success & Social Mobility Student success across the NMSU system is driven by a commitment to learning, degree completion, and career attainment enriched by our research and outreach enterprise. Our students are served by our culture of inclusivity and educational delivery that meets student needs and includes on-line and hands-on learning. Goal 3: Amplify Extension & Outreach NMSU outreach extends knowledge beyond the university, drives integration of activities, directly and indirectly, and supports student learning, experiences, and success. Goal 4: Build a Robust University System NMSU seeks to improve the University System, across the board, for faculty, staff,students, alumni, donors, stakeholders, and prospective students and their families. Cooperation throughout the NMSU system will be exemplary for university systems across the nation through efficient, effective, and empowering operations that align with our strategic goals. Key project objectives that align and support LEADS 2025 strategic goals: 1) Deploy more and better internal cloud computing capabilities through the use of hardware virtualization for increased system availability, performance and energy efficiency. 2) Provide software and hardware tools to support the build out of the Information Security group to address the increased need to monitor regulatory compliance, detect malicious activity, manage data policy enforcement, oversee External Cloud Computing Security initiatives and develop, maintain and enforce risk based "best practices" security procedures at NMSU. 3) Replace existing data storage hardware with next generation data storage, including virtualization and solid state, to insure continued system reliability and performance. 4) Upgrade existing data backup server and storage hardware with next generation hardware to meet both near and geographically remote backup requirements. 5) Develop robust disaster recovery capabilities including existing fiber resources on the Rio Grande Corridor allowing for the deployment of redundant servers, storage and backups at a geographically remote sister sight. 6) Modernization of the primary data center to use alternative cooling and power savings technologies to help NMSU reduce its carbon foot print while continuing to provide an environment for all institutional computing needs. 7) Relocate the secondary data center out of the Milton Hall basement switch room. The ICT needs are specifically listed in the campus master plan, along a reference to upgrading campus fiber infrastructure, building network infrastructure, and distance education.

Measure B4: Facilities Assessment

Provide the facility's most recent condition score and summarize the major structural and systems conditions that resulted in that score. Provide selected supporting documentation in appendices and reference them in the body of the proposal.

B4 Level of Study Completed — Substantially ▾   **Study**   **Study Link**

Cost to Repair — $66,059,399   **Cost to Replace** — $0

Replacement Cost Basis ($ per SF)	$0	Cost to Repair AFTER Project	$0

B4 Explanation

For this project the "facility" is the technological infrastructure. New Mexico State University has developed a detailed component assessment for Information and Communication Technologies (ICT). New Mexico State University commissioned a Building Assessment Report for NMSU Computer Data Center by Huitt-Zollars in September 2012. Additional evaluations, surveys and peer comparisons are completed annually or bi-annually to stay current on trends and recommendations. The most recent is the Peer Institution Research: Recommendations and Trends 2018-2019. This report evaluates the common technology services from New Mexico State University's 15 peer institutions. Architectural Research Consultants Inc. (ARC) 2021 evaluation for the HVAC Upgrade: HVAC projects campus-wide for the first 22 buildings evaluated alone are expected to cost $66 million. See page 4 of the attached excerpt: Recommended HVAC Projects: $66,059,399

Measure B5: Projects impact on On–campus and Off-campus Instruction

Provide information on how this project request will support both on-campus and off-campus instruction.

B5 Score   Substantially

B5 Explanation

NMSU Strategic Goals Goal 1: Enhance Student Success & Social Mobility Student success across the NMSU system is driven by a commitment to learning, degree completion, and career attainment enriched by our research and outreach enterprise. Our students are served by our culture of inclusivity and educational delivery that meets student needs and includes on-line and hands-on learning. Recognizing the diverse backgrounds of students across the system, NMSU provides a supportive environment for students to become a part of, and contribute to, the campus community, the state, the country and the world. 1.1 Diversify, optimize, and increase system-wide enrollment • Create and promote robust online learning programs (fully online degrees, blended programs, online courses, support services) Instruction and Learning Environments for COVID-19 era: Since the release on March 3, 2020, of the ACHA Guidelines: Preparing for COVID-19, almost all institutions of higher education transitioned to an online/virtual mode of instruction. While these efforts have allowed the teaching and learning missions of universities to continue, there are limitations to remote instruction. Planning should include strategies guided by public health considerations to resume in-person instruction. • Prioritization of in-person instruction for courses with academic outcomes that cannot be measured or achieved virtually, such as performance, laboratory, and clinical experiences. • Implementation of a hybrid mode of instruction for the foreseeable future. The college/university must build the necessary staffing capacity to resume not only their primary responsibilities but also the competency to understand their role in reducing transmission of COVID-19. Faculty and staff must be protected, trained, and adequately prepared. • Conduct meetings electronically, even when working on campus. • Consider phased return of employees to no more than 30% of the workforce at a time, staggering every 2–4 weeks for full return. • Allow those who can work effectively from home to be the last to return and/or delay their return to the campus. The project will include upgrades and replacement of data center infrastructure, data center computer systems and network equipment, and short-distance and long-distance fiber infrastructure. All of the services in this project support instruction, research, and administration consistent with New Mexico State University's mission. ICT's Computer Systems support the expectation to engage in learning activities and business, any time of the day or night whether on campus, from home or traveling, using information technology.

C. Green Screen for Buildings

Measure C1: Energy Audit or similar energy assessment

Document details of the audit to include who performed the audit, when it was completed, level of audit/assessment, improvements proposed, and benefits to this project

C1 Score   Somewhat

Energy Audit Completed   ⦿ Yes ○ No   **Energy Audit**   **Energy Audit Link**

C1 Explanation

In 2013 Ameresco preformed an investment grade audit of 46 of NMSU's buildings throughout the state, totaling nearly 2.7 million gross square feet. The audit included the facilities at Alamogordo, Carlsbad, Dona Ana Community College, Grants, remote Agricultural Science Centers, and all buildings on the main campus. NMSU also employees two Certified Energy Managers (CEM) who can look at the potential energy savings of projects. One of the many buildings included in this assessment was the Chemistry Building. Although this project will not be LEED certified, it will be designed using any possible sustainability or energy-conserving techniques that could apply. In general, any improvement to the campus building infrastructure will result in increased efficiency and a corresponding reduction in energy costs. Renovation work will be done following Green Screen standards, with goals of achieving additional energy cost savings. List of Green Screen strategies that will be incorporated in the project during construction include: • Construction waste management principles will be followed during the demolition. • Recycling of applicable materials. • Construction waste management principles followed during construction.

Measure C2: Projects impact on Energy / Utility Cost Reduction

Explain the impact of this project to the net energy / utility costs. Provide a justification if no operating budget impact is anticipated.

Current Energy Usage	$0	Energy Usage AFTER Project	$0

C2 Explanation

The project includes upgrades and replacement of data center infrastructure along with recommendations from HVAC assessment. Within a standard commercial building HVAC energy consumption accounts for about 40% of the total energy used for that building. Additionally, data centers are a very energy intensive space and with additional upgrades to the HVAC systems along with the data center we will be able to see a reduction in energy use. NMSU's building guidelines includes policies to encouraging energy reduction with nearly every project. Additionally, there have been specific projects focusing on energy reduction such as the Ameresco projects. With each project resulting in energy savings there will also be a utility cost savings which can result in an observable change. When the equipment is replaced with more efficiency there will be a reduction in costs. However, the equipment change can also change the system maintenance requirements as well and without knowing what the replacement system will be we are unable to make accurate predictions.

Measure C3: Executive Order (EO) 2019-003

Provide detailed information on how this project will address the goal of reducing Green House Gas (GHG) emissions by 45% as called for in the EO. Explain the steps taken to reduce the buildings energy demands.

C3 Score   Substantially

C3 Explanation   Over 95% of NMSU's scope 1 and 2 emissions are building emissions. Reaching the goals within EO 2019 -003 for greenhouse gas emission reduction remodeling and updating existing infrastructure will be required.

Approximately 40% of commercial building's energy use is from the HVAC systems. Therefore, projects focusing on upgrading existing HVAC systems can have a noticeable impact on the GHG emissions.

D. Stewardship - Detail how the HEI provides stewardship for its assets.

Measure D1: Project Estimates

Describe how this projects cost estimates were developed. Provide the total dollars attributed to inflation. Percentage increases MUST be defended in the narrative portion of the document, or 0% inflation will be assumed.

D1 Score	Somewhat ⌄		
Base Project Estimate	$1,516,000	**Dollars Related to Inflation**	$0
Formal Estimate Provided	⦿ Yes ○ No	**Formal Estimate**	**Estimate Link**

D1 Explanation The process for determining the capital outlay needs begins with the University Architect (UA), who stays in touch with the needs of the education enterprise through communication on various levels. Each year, the University Architect and Associate Vice President for Facilities and Services set up an in-person meeting with the Deans of the Colleges to review the capital outlay requests for the year. The Capital Outlay Briefing is presented to the University Administrative Council, and the flowchart that outlines the process for a project concept to become a priority on NMSU's Five Year Facilities Plan. Project champions (presidents, deans, and vice presidents) submit a Capital Project Proposal Form with justification, business plan, supporting data, and sketches/drawings. The Project Request Form (PRF) is generated; the project is reviewed for compliance with the campus master plan document; and forwarded to Project Development and Engineering (PDE) for a preliminary estimate. The estimate is then assigned directly to the in-house professional estimator, Senior Project Manager. The scope of work is determined with the relevant stakeholders and UA. Budgetary estimates are produced with the use of 2020 ProEst Estimating Software that is built using the current RS Means database. Note that the in-house professional estimator with Facilities and Services PDE must meet satisfactory evidence of the necessary qualifications as required by the Certifying Body of the American Society of Professional Estimators. The Executive Director for PDE reviews the proposed costs to confirm the estimate is reasonable and accurate. Then the AVP of Facilities reports to the Administration for further action and/or inclusion into Capital Outlay or University Capital Plans. Budgetary estimates older than a year are reviewed and adjusted for inflation as part of the capital outlay process, and incorporation to the current campus Five Year Facilities Plans.

Measure D2: Describe how this project addresses/reduces deferred maintenance on campus

Deferred Maintenance	$146,266,717	**Deferred Maintenance AFTER Project**	$0

D2 Explanation Completion of this project will reduce the deferred maintenance related to repairs associated with technological infrastructure and expensive cybersecurity upgrades. Fixes for infrastructure failures are desperately needed to avoid a disaster that would massively disrupt the entire campus. Investing in an upgraded HVAC should greatly lessen the burden placed upon NMSU Facilities.

Measure D3: Asset Stewardship Provide information on how the HEI supports the ongoing operational and maintenance needs of current and proposed assets.

D3 Score	Substantially ⌄		
Level of Plan	Substantially ⌄	**BRR Plan**	**BRR Link**

D3 Explanation Facilities and Services receives an annual funding allocation for Building Renewals and Replacements (BRR). Facilities and Services receives an annual allocation for capital renewal and we created a Building Renewals and Replacements (BRR) task force that met every other week for a year to develop a 3-5 year BRR plan. This past year, an internal, cross-sectional team met bi-weekly for a year to assess each building system. This led to the creation of what we called a 3-year plan, although by design the listed needs exceeded the available funding so in places we also called it a plan for the next five years. We made presentations and prepared a BRR booklet. We used a number of reports that we have commissioned in the development of this plan: Roof Assessment by BTA; ThyssenKrupp Elevator Assessment; AON Fire Protection and Life Safety System Assessments; Bohannon Huston Site Electrical Infrastructure Master Plan; GLHN Utility Development Plan; Accessibility Survey of Campus Buildings; NMSU Data Center Planning Report; Las Cruces Campus Drainage Study; Structural Integrity Study for the NMSU Utility Tunnel; Chemistry and Biochemistry Exhaust System Study; and the Water Master Plan. This Building Renewals and Replacements plan was put together with input from staff in Facility Operations, Project Development and Engineering, Environmental Health and Safety (EHS), the Fire Department, the University Architect, and the University Engineer. The BRR Briefing that summarizes the history of BRR, describes the sectors, Capital Improvement BRR, and process for recommendations. We receive $5.2 million annually, and $500k is reserved for new programs and initiatives at the President/Provost direction. The remaining $4.8 million is the most efficiently spent money this university has and is used to keep the lights on, the buildings cool, and the elevators humming – and it has allowed NMSU to meet stewardship targets since 2015 towards the deferred maintenance backlog. Campus-wide maintenance needs and challenges do not leave adequate funding for buildings and infrastructure upgrades. As a result, ICT relies on the Student Technology Fee for project funding. The funds provided by the NMSU Student Technology Fee are collected as part of the Las Cruces campus tuition and fees. Specific areas which benefit from the fund include student computing labs, multi-media enhanced classrooms and computer classrooms, campus-wide online course management system, lab and personal software, wireless areas, computer equipment rentals, printing services, digital signage advertising, student portal services, support staff salaries for student technology services, student staff, help desk, and core network infrastructure.

Measure D4: Maintenance Cost Reduction

Describe in detail how this project will affect operating appropriations for the current year and all out-years. Provide a justification if no operating budget impact is anticipated.

Total O&M Budget	$0	**Total O&M Budget AFTER Project**	$0

D4 Explanation Completion of this project will reduce the following maintenance and operations costs: • Reduced electric utility costs realized with the installation of new energy efficient equipment in the data center • Costs associated with rescheduling university operations due to a lack of data availability. • Costs associated with restoring computer systems associated with an unscheduled power outage. • Insurance claims and costs to replace computer equipment damaged by a hard shut down and restart. • Installation of new HVAC system and components, with the expectation of proper maintenance reduces costs of Facilities need and activity in these buildings

Measure D5: Health, safety, and security

Describe how this project will address major health and safety issues/concerns on campus, including how it will improve physical safety and cybersecurity on campus. Provide selected supporting documentation and reference them in the body of the proposal.

D5 Score

Two or more plans	⌄

Level of Plan

Level 1	⌄

HSS Plan

D5 Explanation

This project will work to address the NMSU central computing servers and infrastructure on which NMSU's business, HR, and student computing applications reside. Ensuring that NMSU's data is secure, accurate, and available to the NMSU community, is top priority for improved cybersecurity on campus. State-of-the-art technology will be used to secure and protect NMSU's technology infrastructure. ICT manages security for the Computer Center, Milton Hall data center and offsite storage. It also handles functional administrative enterprise security analysis, workflow and access control. ICT coordinates IT Security for all NMSU campuses. This includes forensics investigations for crimes, policy violations or compromised systems. Additionally, handling copyright violation, infected device notification, network blocking, system log aggregation and analysis, antivirus software management, vulnerability scanning and security planning and direction is the role of ICT. Datacenter upgrades – ICT's data centers contain the communications, networking, and computing technology on which much of the university's business is conducted. As such, ICT continually enhances technologies contained therein. The upgrades included: • Upgrading the servers and storage – This ensures the hardware equipment are kept up-to-date with proper security specifications. • Upgrading the network routers and switches - This improved the movement of data across two NMSU datacenters (ICT Computer Center and Milton Hall). • Upgrading the data center firewall – The upgrade protects data transfer and improves data security. The upgrade helps ensure that servers within the datacenter are protected from intrusion. In response to COVID-19, the university evaluated the HVAC systems and components campus-wide. Recommendations to correct the mechanical deficiencies will work to ensure proper ventilation and improvement indoor air quality in buildings for the health and safety of the occupants.

Appropriation Lanaguage $1,500,000 to plan, design, construct, renovate, and equip information technologies infrastructure and mechanical system upgrades at New Mexico State University- Las Cruces.

Follow up Questions

Starting Fiscal Year	2021	**Expense Type**	
Planned Project Start		**Planned Project Finish**	
Investment to Date	$0	**Funds Needed By**	
Discounting Switch	Off	**% Complete**	0%

Discount Rates	2022: 0.00%	2023: 0.00%	2024: 0.00%	2025: 0.00%

Forecast

	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	Total	Notes
Pre-Project							Definition: Non-recurring cost to get to an approved and funded project.
Internal Staff Labor $	$0	$0	$0	$0	$0	$0	
Internal Contract Labor $	$0	$0	$0	$0	$0	$0	
External Staff Labor $	$0	$0	$0	$0	$0	$0	
External Contract Labor $	$0	$0	$0	$0	$0	$0	
Software $	$0	$0	$0	$0	$0	$0	
Hardware $	$0	$0	$0	$0	$0	$0	
Facilities and Power $	$0	$0	$0	$0	$0	$0	
Internal Services $	$0	$0	$0	$0	$0	$0	
Outside Services $	$0	$0	$0	$0	$0	$0	
Telecom $	$0	$0	$0	$0	$0	$0	
Other $	$0	$0	$0	$0	$0	$0	
Total Pre-Project	$0	$0	$0	$0	$0	$0	
Project							Definition: Non-recurring cost to implement and field the product or service.
Internal Staff Labor $	$0	$0	$0	$0	$0	$0	
Internal Contract Labor $	$0	$0	$0	$0	$0	$0	
External Staff Labor $	$0	$0	$0	$0	$0	$0	
External Contract Labor $	$0	$0	$0	$0	$0	$0	
Software $	$0	$0	$0	$0	$0	$0	
Hardware $	$0	$0	$0	$0	$0	$0	
Facilities and Power $	$0	$0	$0	$0	$0	$0	
Internal Services $	$0	$0	$0	$0	$0	$0	
Outside Services $	$0	$0	$0	$0	$0	$0	
Telecom $	$0	$0	$0	$0	$0	$0	
Other $	$0	$0	$0	$0	$0	$0	
Total Project	$0	$0	$0	$0	$0	$0	
Post-Project							Definition: Recurring cost to support the product or service through the end of the planning horizon.
Internal Staff Labor $	$0	$0	$0	$0	$0	$0	
Internal Contract Labor $	$0	$0	$0	$0	$0	$0	
External Staff Labor $	$0	$0	$0	$0	$0	$0	
External Contract Labor $	$0	$0	$0	$0	$0	$0	
Software $	$0	$0	$0	$0	$0	$0	
Hardware $	$0	$0	$0	$0	$0	$0	
Facilities and Power $	$0	$0	$0	$0	$0	$0	
Internal Services $	$0	$0	$0	$0	$0	$0	
Outside Services $	$0	$0	$0	$0	$0	$0	
Telecom $	$0	$0	$0	$0	$0	$0	
Other $	$0	$0	$0	$0	$0	$0	
Total Post-Project	$0	$0	$0	$0	$0	$0	
Total Cost	$0	$0	$0	$0	$0	$0	

	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	Total	Notes
Revenue							Definition: Incoming revenue associated with the product or service.
<Source 1> $	$0	$0	$0	$0	$0	$0	
<Source 2> $	$0	$0	$0	$0	$0	$0	
<Source 3> $	$0	$0	$0	$0	$0	$0	
<Source 4> $	$0	$0	$0	$0	$0	$0	
<Source 5> $	$0	$0	$0	$0	$0	$0	
<Source 6> $	$0	$0	$0	$0	$0	$0	
<Source 7> $	$0	$0	$0	$0	$0	$0	
<Source 8> $	$0	$0	$0	$0	$0	$0	
Total Revenue	$0	$0	$0	$0	$0	$0	
Cost Reduction							Definition: Money saved that is being spent today. True cost take-out.
Internal Staff Labor $	$0	$0	$0	$0	$0	$0	
Internal Contract Labor $	$0	$0	$0	$0	$0	$0	
External Staff Labor $	$0	$0	$0	$0	$0	$0	
External Contract Labor $	$0	$0	$0	$0	$0	$0	
Software $	$0	$0	$0	$0	$0	$0	
Hardware $	$0	$0	$0	$0	$0	$0	
Facilities and Power $	$0	$0	$0	$0	$0	$0	
Internal Services $	$0	$0	$0	$0	$0	$0	
Outside Services $	$0	$0	$0	$0	$0	$0	
Telecom $	$0	$0	$0	$0	$0	$0	
Other $	$0	$0	$0	$0	$0	$0	
Total Cost Reduction	$0	$0	$0	$0	$0	$0	
Cost Avoidance							Definition: Preventing money from having to be spent that is not currently being spent today.
Internal Staff Labor $	$0	$0	$0	$0	$0	$0	
Internal Contract Labor $	$0	$0	$0	$0	$0	$0	
External Staff Labor $	$0	$0	$0	$0	$0	$0	
External Contract Labor $	$0	$0	$0	$0	$0	$0	
Software $	$0	$0	$0	$0	$0	$0	
Hardware $	$0	$0	$0	$0	$0	$0	
Facilities and Power $	$0	$0	$0	$0	$0	$0	
Internal Services $	$0	$0	$0	$0	$0	$0	
Outside Services $	$0	$0	$0	$0	$0	$0	
Telecom $	$0	$0	$0	$0	$0	$0	
Other $	$0	$0	$0	$0	$0	$0	
Total Cost Avoidance	$0	$0	$0	$0	$0	$0	
Total Benefit	$0	$0	$0	$0	$0	$0	

	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	Total
Total Pre-Project	$0	$0	$0	$0	$0	$0
Total Project	$0	$0	$0	$0	$0	$0
Total Post-Project	$0	$0	$0	$0	$0	$0
Total Cost	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**
Total Revenue	$0	$0	$0	$0	$0	$0
Total Cost Reduction	$0	$0	$0	$0	$0	$0
Total Cost Avoidance	$0	$0	$0	$0	$0	$0
Total Benefit	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**
Return	$0	$0	$0	$0	$0	$0
Cumulative Return	$0	$0	$0	$0	$0	$0
ROI %	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Cumulative ROI %	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%

Results

Total Investment Required (i.e. Total Cost):	$0	Return $:	$0	Revenue % of Total Benefit:	0.00%
Investment to Date: (i.e. $ Spent so far):	$0	ROI %:	0.00%	Cost Reduction % of Total Benefit:	0.00%
Investment Remaining to Go:	$0	Payback Period (in Years):	0.00	Cost Avoidance % of Total Benefit:	0.00%

Notes: 1) These metrics are designed to depict the strength of the business case by the type of benefit. A business case that has its strength in cost avoidance, particularly in the out-years, is not as strong a business case as one that commits to benefits earlier or that delivers cost reduction. 2) The payback period is the length of time required to recover the cost of the investment.

Cost vs. Benefit

■ Total Cost   ■ Total Benefit   ■ Return

Cost $

Total Post-Project   Total Project   Total Pre-Project

	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025
	$0	$0	$0	$0	$0

Benefit $

Total Cost Avoidance   Total Cost Reduction   Total Revenue

	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025
	$0	$0	$0	$0	$0

Return $

Return

	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025
	$0	$0	$0	$0	$0

Payback Period (in Years)

Payback