SAVING LIVES, CHANGING LIVES, CREATING FUTURES.

NSRI IT Steering Committee Report for the Financial Year ending 31st December 2018

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1. NSRI IT Overview

National Sea Rescue Institute of South Africa (NSRI) has over the last five years implemented IT systems and Functionality at Head Office and Stations under the guidance of the IT Steering Committee.

Legacy Systems have been replaced with Microsoft Products as a strategy to address cost effectiveness, intuitive functionality, universal access and integration.

A conscious decision has been made to move systems towards Cloud Based applications however maintaining Server Functionality and Capacity in the short term during the change process.

MS NAV and CRM have been implemented and integrated as foundation products/applications and Desktop Office applications are delivered through Office 365 providing continuous access across fixed and mobile devices.

In 2019 the NSRI brought their call centre business inhouse and inherited the legacy Access DataBase which holds 500 000 individual donor records. This DataBase will be transitioned to MS CRM to improve security and functionality.

Rescue Operations infrastructure and systems are progressively being improved within the current connectivity constraints of small towns. Operations will implement an Emergency Operations Centre in 2019 which will require a range of applications at the front end and an operational records database. The vision is to collect operational records data within the MS CRM environment.

2. NSRI Head Office

2.1 Dynamics 365

In 2016 NSRI went live with Dynamics CRM on-premise to handle the donor database which was previously housed in Donor care which resided on the server at Head Office. By moving to Dynamics CRM we were able to give fundraisers the ability to access the database over a secure connection from anywhere as long as there is an internet connection. In 2018 we moved Dynamics CRM into the cloud from an on-premise installation. The reasons for this move was due to the improved features in Dynamics 365 which integrates with Office 365 and saves on licensing costs. During this time Dynamics 365 evolved to take on more functionality besides the donations & non-profit documentation management, the following areas have been developed:

- Management of donations from our corporate and individual donors
- Production and storage of Non-Profit documentation relating to donations
- Data management and clean up to provide a 360° view of our donor
- Tracking of Rescue Buoys and status reason (stolen, deployed, stolen etc.)
- IT Asset tracking & assignment

- IT cases for support, cellphones and projects
- Queue for Procurement for tracking and authorization of Purchase Orders
- Management of IT Activities against each user

Microsoft Dynamics 365 is the primary databases for use by Fundraising, the future vision and strategy is to have our databases integrated to provide a 360° view of our donors, volunteers, service providers and partners. In order to provide a platform for authorizations of purchase order numbers across the NSRI, we have undertaken a project to integrate Dynamics 365 and Dynamics NAV for procurement purposes. The integration will run on a time based SQL job to ensure the records are available in both databases and as they moved through the authorization process, the record will be processed to a state of 'read-only' in Dynamics 365.

Dynamics 365 also allows a customer portal which NSRI intend to use to keep volunteer data up to date and provide a platform for volunteers to access their own records. The long-term plan is for the volunteer records to be integrated with the system we implement to replace MIS.

2.2 Dynamics 365 Business Central

Dynamics NAV was implemented in December 2017 to replace the Sage AccPac and replace the existing ERP system at NSRI Head Office. The project scope was to replace 'like for like' and then take an agile approach to integration and reporting capabilities using Dynamics NAV which has since been rebranded Dynamics 365 Business Central. As detailed in section 2.1 the strategy has always been to integrate these two databases, the first iteration of this integration will be going live in April 2019 which will focus on procurement.

We will also be focusing on bringing in the NSRI assets into Dynamics 365 Business Central to calculate the depreciation and monitor station assets for replacement.

The user experience and reporting in Dynamics 365 Business Central is a project high on the agenda for 2019.

2.3 Connectivity

At NSRI Head Office we are running a 100MB fibre line through RSAWEB and Octotel. We are coming to the end of the 24 month contract and we will be exploring options when the contract approaches the end date.

With the recent load shedding and onboarding of the EOC in April, the reliance on a backup solution is more necessary than previously and we are engaged with Vodacom to provide a backup LTE solution.

2.4 Hardware

A full hardware refresh has been completed at Head Office over the last 3 years. New starters receive a minimum spec laptop\desktop with the following:

- Dell Intel Core i5
- Windows 10 Professional
- 8GB RAM
- 1TB Hard Drive
- 15" monitor for laptops, 19" for desktops

2.5 Software

NSRI has adopted the Microsoft Office 365 platform as the tool for collaboration which has resulted in a heavy reliance on SharePoint which replaced DropBox in 2017. We are constantly looking to evolve SharePoint to improve the efficiency and communication between departments.

All Head Office users have an Office 365 license which is either E3 (paid for) or E2 (sponsored) dependent on their needs. Microsoft software is procured directly through Microsoft, through Sangotech or through iSquared.

F-Secure Anti-Virus software has been installed at Head Office since 2016 with no major incidents.

3. Stations

The historic relationship between Head Office and Stations from an IT perspective has been very limited. Each station had their own standard operating procedures for procurement of hardware and software. We have worked to eliminate this risk by standardizing all laptops\desktops at station level and training the volunteers to use the tools made available to them via Office 365.

3.1 Hardware

The hardware at many stations is out of date and needs to be replaced. We have completed an audit and asset tagged existing hardware and any new hardware being sent to stations. All station hardware requests go through Head Office to ensure the minimum specs are adhered to and the best available options are selected. Hardware is configured at Head Office and then sent to the station via DHL or delivered if within the Cape Town area. We request that the station sends old hardware back to Head Office so that it can either be re-purposed or have the data cleaned off the machine and disposed of in an environmentally friendly manner.

3.2 Software

The adoption of volunteers at Station level of Office 365 and SharePoint has been slow. More stations are starting to use this tool for collaboration between Head Office and the station and have given us feedback on where we can improve the tools available.

The biggest concern is from volunteers is MIS in terms of the levels of frustration in using the system and the incorrect data being reported on.

Operations and IT are investigating Fire Web which will potentially replace MIS.

F-Secure is installed on all station hardware which gives us an insight as to how up to date these PC's are in terms of Windows updates and 3rd party software. We have also installed a licensed version of Team Viewer to provide the ability to connect to the pc remotely and resolve any issues.

The stations each have an Admin Account and a Crew Account for access to SharePoint which provides different security rights. Some stations have identified the need for a 'management' account which has been granted.

Each station has the ability to backup all files to SharePoint or their own personal station One Drive site which gives them 1TB of storage space.

3.3 Connectivity

The issue of connectivity at stations has been a problem for a long time due to the reliance on Telkom and the issue of cable theft. We are asking the stations to move into an online world where everything is cloud-based and as such need to provide a stable internet connection.

The current station connectivity is a mixture between 5 different service providers due to the availability in the area but we would like to streamline our service providers. We are actively moving away from the reliance of Telkom to avoid downtime when cable theft has occurred. We have decided not to migrate the Telkom analogue lines to VOIP as VOIP is connection dependent whereas an analogue line does not rely on an internet connection.

The proposal is to move stations to a 10MB ADSL line (where possible) or a Vodacom LTE 100MB connection where ADSL is not available.

Future projects include a backup solution in the event of the primary connection being down, currently this can be handled by using the station cellphone as a hotspot.

We are monitoring the evolution of 5G.

4. Call Centre

Prior to the NSRI purchasing the Call Centre a due diligence exercise was carried out by an independent service provider in 2018. The audit report found many issues at the Cell Centre from out of date hardware through to the version of software being used.

The audit report is quite detailed surrounding the network, workstations, servers, databases, connectivity and VOIP solutions at the Call Centre. We have decided to focus on an agile approach to resolve all the IT related issues at the Call Centre by the following areas of work:

4.1 Workstations

The Call Centre workstations are combination of Lenovo, Dell and Proline PC's. The average age is 4 years and a total of 8 pc's are 5 years and older. The highest spec is an Intel i3 with 4GB RAM.

We are currently refreshing all workstation hardware with machines that meet the minimum spec for hardware detailed in section 2.4

This project should be completed by April 2019 providing there are no compatibility issues.

4.2 Servers

All servers are located in the server cabinet in the server room that is accessible by security tag. All equipment in the server cabinet is connected to a UPS, ensuring the network and servers remain accessible in the event of a power failure.

The servers in place at the Call Centre run the following:

- Active Directory
- DHCP server for Workstations
- DNS Server for Workstations
- File Server
- Windows Update Server
- Data Backup
- Group Policies
- 3CX VOIP
- Access Database

A meeting has been setup with iSquared to propose a best plan forward with regards to the Cell Centre servers to align with the IT strategy of NSRI

4.3 Car Competition Database

This database system, backend and frontend, is the tool used by which tickets to that Car Competition are sold and managed. The database as at 28 August 2018 contains 68893 client records. It is a complete system that has been developed over a two-year period.

This database is a mature system that meets the requirements to perform and manage Car Competition ticket sales. The user interface and functionality is well designed and comprehensive. The challenge is how to secure this database behind the Vodacom firewall and then start a project to migrate to Dynamics 365 in order to align with the strategy for Head Office.

The following concerns have been noted:

- There is no password protection to access the backend of the database. As the database can be copied, personal information such as name, telephone numbers, address and email address could end up in the wrong hands.
- No documentation on tasks, processes, standards, exists for use of the system, making its operation totally dependent on current users experience and knowledge of the system.

4.4 Direct Debit Database

The debit order system is a set of Access databases. It has nowhere near the sophistication, integrated functionality and capabilities of the Car Competition database. It is a very basic system of record keeping and reporting, whose successful operation depends on user's knowledge of manual data mining and manipulation capabilities of tables, queries and report writing within this system. This is the key reason for the success of this system. There are many manual processes to manage and administer data and donor processes, however, the users have set it up and developed processes so that they can perform all the desired tasks needed for this business function, including extracting data for debit order processing, and importing files of debit orders that have been processed.

The following concerns have been noted:

- No current training documentation or documentation on processes and procedures exist for this system.
- The successful use of this system is dependent on technical knowledge of Access regarding, tables, queries and report writing.
- Banking details of donors are not encrypted.
- Risk of key personnel that understand the system and leave the company.
- The databases are not password protected.

In essence the Access databases have a high risk attached to them due to the findings in the Audit Report at the Call Centre and internal findings since we have replicated the environment at Head Office.

NSRI IT have undertaken the task to unpack the database and document all procedures and business processes to ensure business continuity in the event of loss of key personnel. The decision on whether we can use Dynamics 365 for the Call Centre will be taken after due diligence with Russel Wright from IT Can who was responsible for the development of the database.

4.5 VOIP

3CX is a modern, advanced full integrated VOIP PBX system that has been implemented and is managed by ICT Globe, a 3CX business partner. It has a yearly license fee of R35000 (based on dollar exchange rate) for the 64 Channel license that is currently in place for incoming and outgoing calls. The next level of license is for 128 Channels which is double the price. The number of extensions is not limited by a license. ICT Globe provisions the VOIP service and bills for calls on a monthly basis.

NSRI proposes to bring the Call Centre in-line with the Head Office solution and migrate this service to a cloud-based PBX with Euphoria which will alleviate the need for a server. All existing hardware is compatible with the proposed Euphoria solution.

Euphoria are developing a Call Centre application for their VOIP solution which should be available for testing at the end of April.

We propose to run a feasibility test at the Call Centre on 5 extensions with Euphoria (in parallel with 3CX to avoid downtime) and then decide if this solution will cater for the needs.

5. Power Supply

The resurgence of 'Load Shedding' and the problems at Eskom have raised the probability of power interruption and consequent loss or disruption of business continuity, particularly in the context of the Call Centre.

The NSRI will implement necessary fall over systems to ensure that Head Office and the Call Centre continue to function during power outages.

Stations have recorded power outages as an operational risk and have implemented systems to ensure the ability to launch during outages.

6. Conclusion

The IT environment at NSRI has changed remarkably in the last 5 years which has necessitated the need for an internal team in order to handle the support cases, project work and liaise with service providers to ensure downtime is kept to a minimum.

The ICT Steering Committee including management meets quarterly to discuss current and upcoming projects, manage the data centre requirements and plan for future projects\requirements.

The strategy is to integrate IT Systems across the Institute, ensure business continuity, sustainability and user experience.

The IT Steering Committee is satisfied that the ICT environment within the Institute is being progressively addressed within the constraints of funding and time to meet its business requirements.

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Date: ………………………………………………………..	Signature: ………………………………………………………………