

We do it Through Our People

# SWAZILAND WATER SERVICES CORPORATION



## HARNESSING ICT TO ACCELERATE SUSTAINABLE WATER AND SANITATION FOR ALL

**Presented by** : **INNOCENT MKHOMBE**  
**Date** : **JULY 2018**  
**Venue** : **KAMPALA, UGANDA**



# Introduction



- Landlocked country
- Total area 17,364 km<sup>2</sup>
- SWSC is a body corporate
- 100% Government owned
- Water services act 1992
- 58 000 water connections



## National Agenda : Vision 2022

- 100% coverage { water and sewerage}
- Decentralization policy
- Poverty reduction strategy and action plan
- Sustainable Development Goals

## Performance Contract (IWRM)

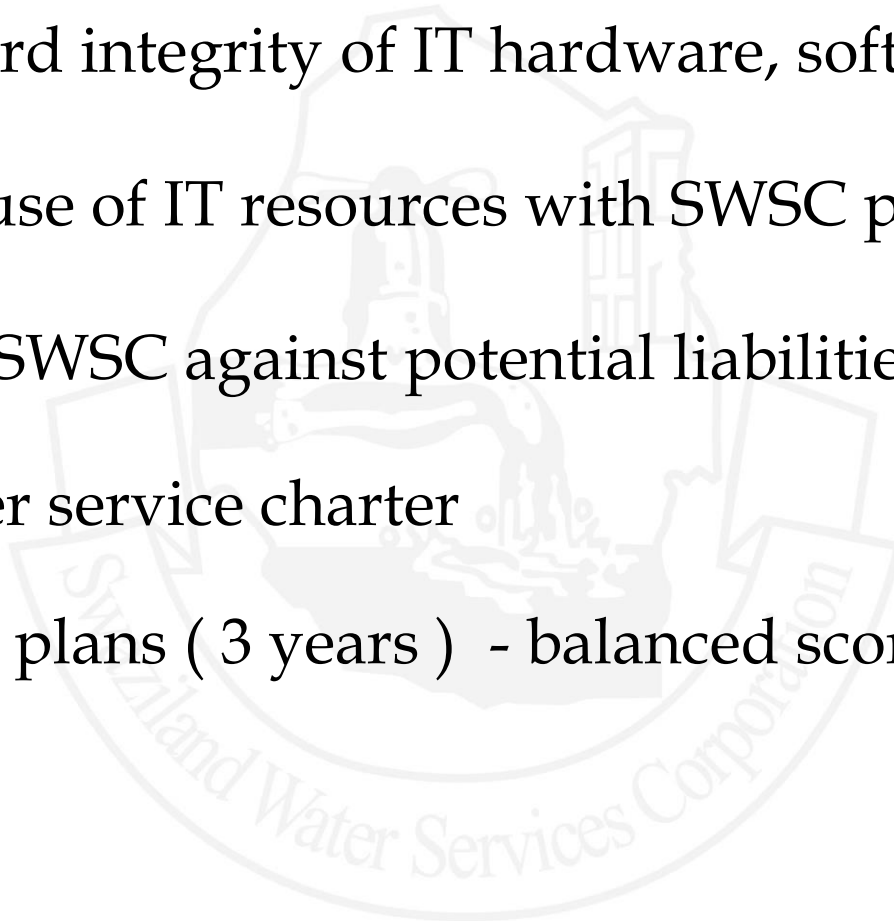
- Full disclosure
- Performance indicators
  - Growth ( volumes, customer base, financial, etc. )
  - Quality of service ( Quality of product and discharges, etc.)
  - Efficiencies ( NRW, Employee: Connections, etc.)

# Introduction



## SWSC IT Policy

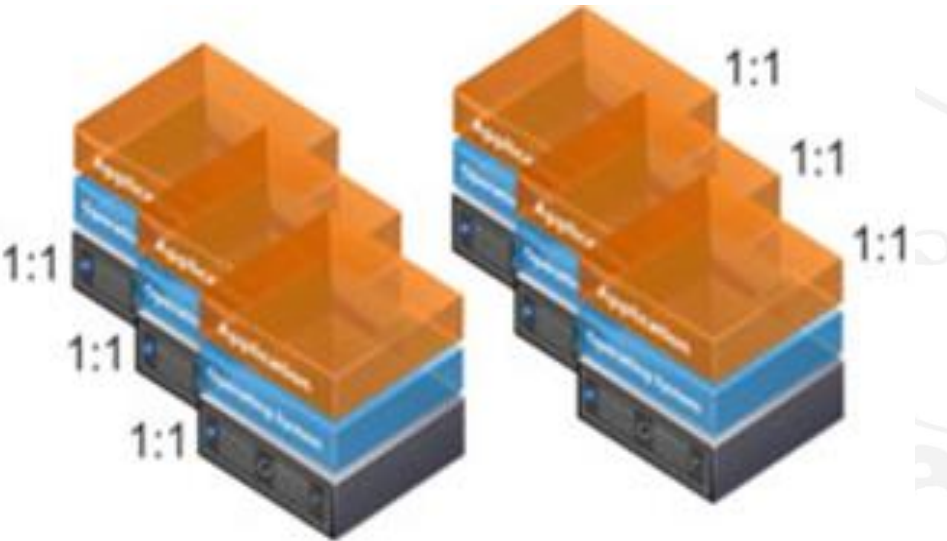
- Safeguard integrity of IT hardware, software & data
- Aligns use of IT resources with SWSC policies
- Protect SWSC against potential liabilities linked to ICT
- Customer service charter
- Strategic plans ( 3 years ) - balanced scorecard



# ICT Infrastructure - VMware virtualization

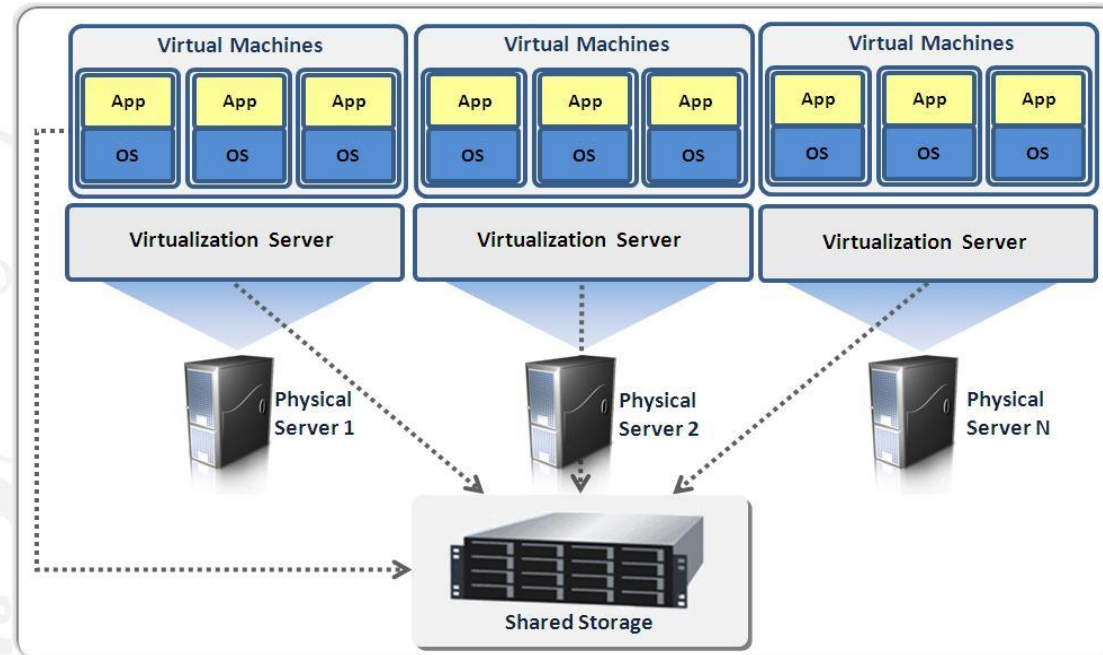


## Traditional Architecture



- \* 1:1 relationship between apps & h/w
- \* Downtime on h/w failure
- \* High number of physical servers

## Virtual Architecture

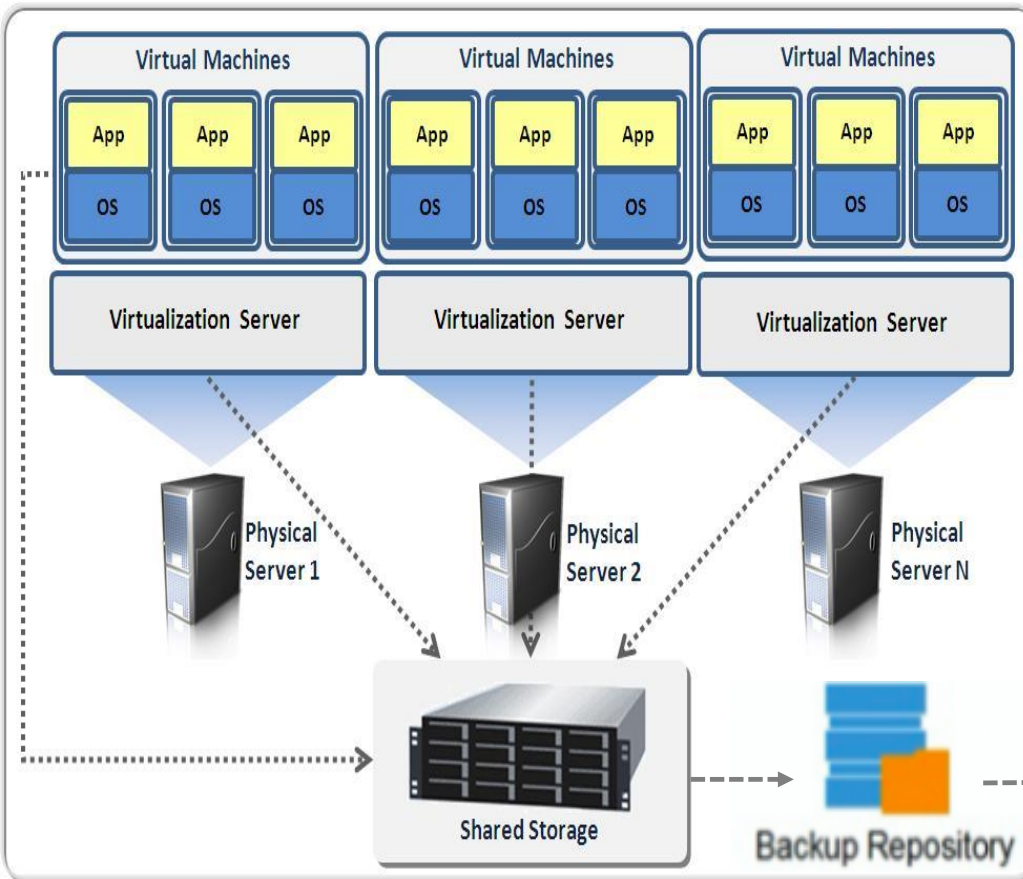


- \* Many:1 relationship between apps & h/w
- \* Insulated from h/w changes
- \* Optimizes performance and availability
- \* Reduced number of physical servers (33 virtual machines running on 3 physical servers)

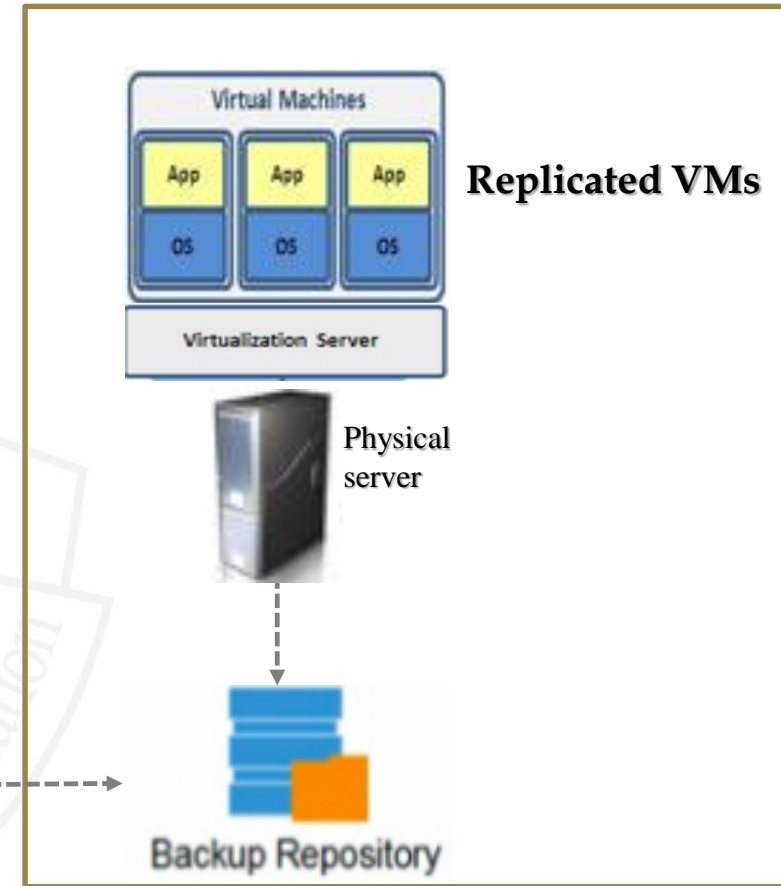
# ICT Infrastructure – VMware virtualization



## Production Data Centre



## Disaster Recovery Site



- \* veeam backup solution
- \* Radio Connectivity between Production Data Centre and Disaster Recovery Site
- \* Business critical systems replicated to the DR Site

# Challenges



## High Demand for services

- Politically driven expansion into non viable areas ( rural with high poverty indices, settlement patterns )

## Over Regulation

- SEA, SPPRA, CIC, SRA, etc.
- Stringent standards /legal environment
- Tariff approval processes (PEU, Cabinet, Parliament)

## Production inputs

- Power costs ( 15-18% annual increase)

**Climate change** Sustainability of water resources

**Instability of power supply**



## Digital Platforms



- Facebook ( 5041 followers, 10%)
- Others ( Twitter, linked in, Instagram, website, You Tube)

## Transparency and Accountability

- Reports, and feedback
- Improved public participation
- Brand promotion and advertising
- Education
- Speedy Information sharing in emergencies



# HARNESSING ICT AT SWSC



facebook.com



Swaziland Water Services Corporation

June 4 · 🌐

#Serviceupdate Moneni

## NOTICE



### WATER INTERRUPTION IN MONENI

The Swaziland Water Services Corporation would like to notify its valued customers, business community and the public in Moneni and surrounds that there will be interruptions in water supply on **Tuesday, 5 June 2018 starting from 09:00am to 04:00pm.**

The interruption will be caused by scheduled maintenance works of the water supply network.

The Corporation regrets any inconvenience that may be caused by the interruption.

**ANNOUNCEMENT BY  
PUBLIC AFFAIRS DEPARTMENT**

"We are an Equal Opportunity Employer"

Emtfonjeni Building, Corner MR 103  
and Cultural Village Drive, Ezulwini.  
Tel: 24169000, Fax: 2416 3616  
Visit: [www.swsc.co.sz](http://www.swsc.co.sz)

[www.swsc.co.sz](http://www.swsc.co.sz) @SWSC\_Water /swscswaziland



facebook.com



Nosisa Nene-Simelane Sicasheni boooo

22h



Swaziland Water Services Corporation All available vacancies are advertised in the newspapers

19h



Swaziland Water Services Corporation

July 11 at 5:36 AM · 🌐

#SWSCVacancy

## VACANCY



### INDUSTRIAL RELATIONS MANAGER

Applications are invited from suitably qualified candidates for the position of Industrial Relations Manager in our Human Resources department.

#### MAIN PURPOSE

Provide expert advice and consultative services to management and staff on labour issues; implement and manage industrial relations policies and procedures.

#### REQUIREMENTS AND EXPERIENCE

- Bachelor of Arts (Law)/Degree in Labour Law or equivalent
- Minimum 5 years of relevant work experience in a similar environment, including at least 3 years practical experience in IR management in a highly unionised environment
- Good writing, presentation, communication, analytical, decision making and interpersonal skills
- Ability to function efficiently and effectively in a dynamic and pressurized environment
- Experience in conflict management, negotiation and dispute resolution

#### KEY RESPONSIBILITIES

The incumbent will be responsible for the following:

- Formulation of and ensure adherence to all employee relations policies and procedures; ensure that they are in line with relevant legislation
- Liaising with labour regulators, legal advisor, social partner representatives and CMAC
- Labour, management and stakeholder relationships
- Facilitating and provision of professional advice on grievances, conflicts and disciplinary hearings
- Facilitation of union/management meetings
- Negotiation of and adherence to agreements

#### REMUNERATION PACKAGE

The position comes with a competitive salary and other benefits associated with the level of the position and experience.

#### APPLICATIONS

Please submit your applications with an up-to-date detailed resume and certified copies of academic qualifications to:

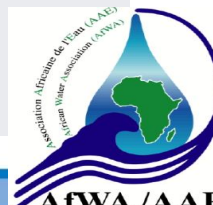
The Human Resources Manager  
Swaziland Water Services Corporation  
PO Box 20, Mbabane  
Email: [humanresources@swsc.co.sz](mailto:humanresources@swsc.co.sz)  
Closing date for applications: 18 July 2018

Only shortlisted candidates will be contacted

"We are an equal opportunity employer"

[www.swsc.co.sz](http://www.swsc.co.sz) @SWSC\_Water /swscswaziland


Emtfonjeni Building, Corner MR 103  
and Cultural Village Drive, Ezulwini.  
Tel: 2416 9000, Fax: 2416 3616  
Visit: [www.swsc.co.sz](http://www.swsc.co.sz)



# HARNESSING ICT AT SWSC





Instagram Log in | Sign Up



We are now available on WhatsApp,  
send us your queries on

# 7806 5000





**swsc\_water** • Follow

swsc\_water For all your water related issues, please do not hesitate to contact us on WhatsApp #78065000 #WeAreHereToServe

13 likes  
FEBRUARY 15

Log in to like or comment.



## Billing and data transfer

- 100% metering of consumers
- AMR metering for DMAs and key consumers
- Meter reading through electronic devices
- Digital uploading of meter readings into EDAMs billing system
- Paper based recording errors reduced
- GPS enabled devices (Performance tracking, new entrants/ auditors)

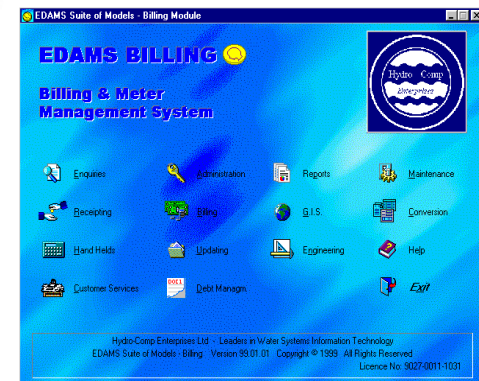


# HARNESSING ICT AT SWSC



## Revenue Collection

- SMS (35k) and Email billing (14k) vs Snail mail
- 35% savings in cost of snail mail
- EFT payments: Banking apps {bank defined beneficiaries (6,3K connections, 10% transitioned)}
- Mobile money payments
- Electronic receipting systems in Revenue centres



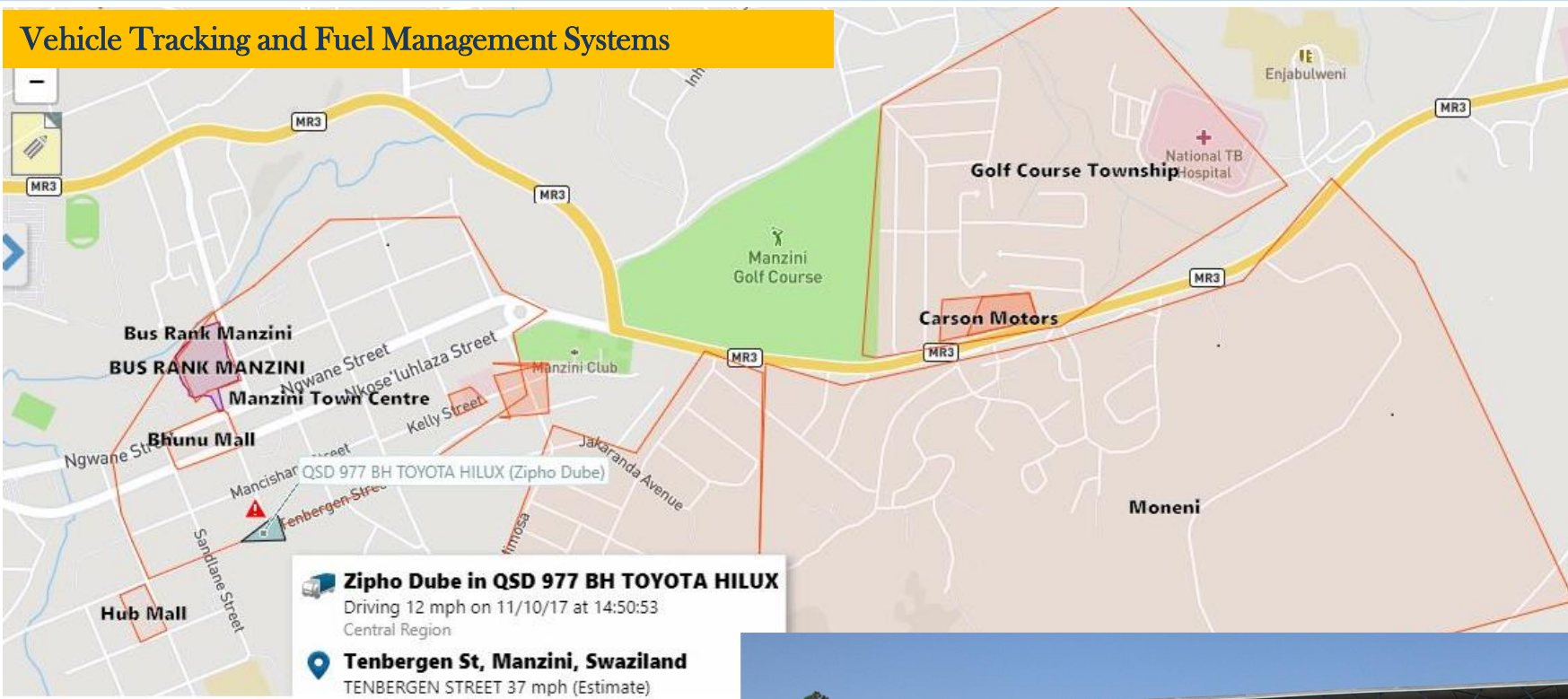
## Production costs and water losses

- Remote operation and Automation of some key operations ( pump attendants)
- AMR metering : NRW overtime elimination , flow patterns
- Fleet and fuel management: 160 total
- I<sub>2</sub>O platform; flow and time modulation
- Asset management system: Works management, planning, performance management, resource allocation
- Security costs :Electric fencing systems in strategic areas

# HARNESSING ICT AT SWSC



## Vehicle Tracking and Fuel Management Systems



Swaziland Water

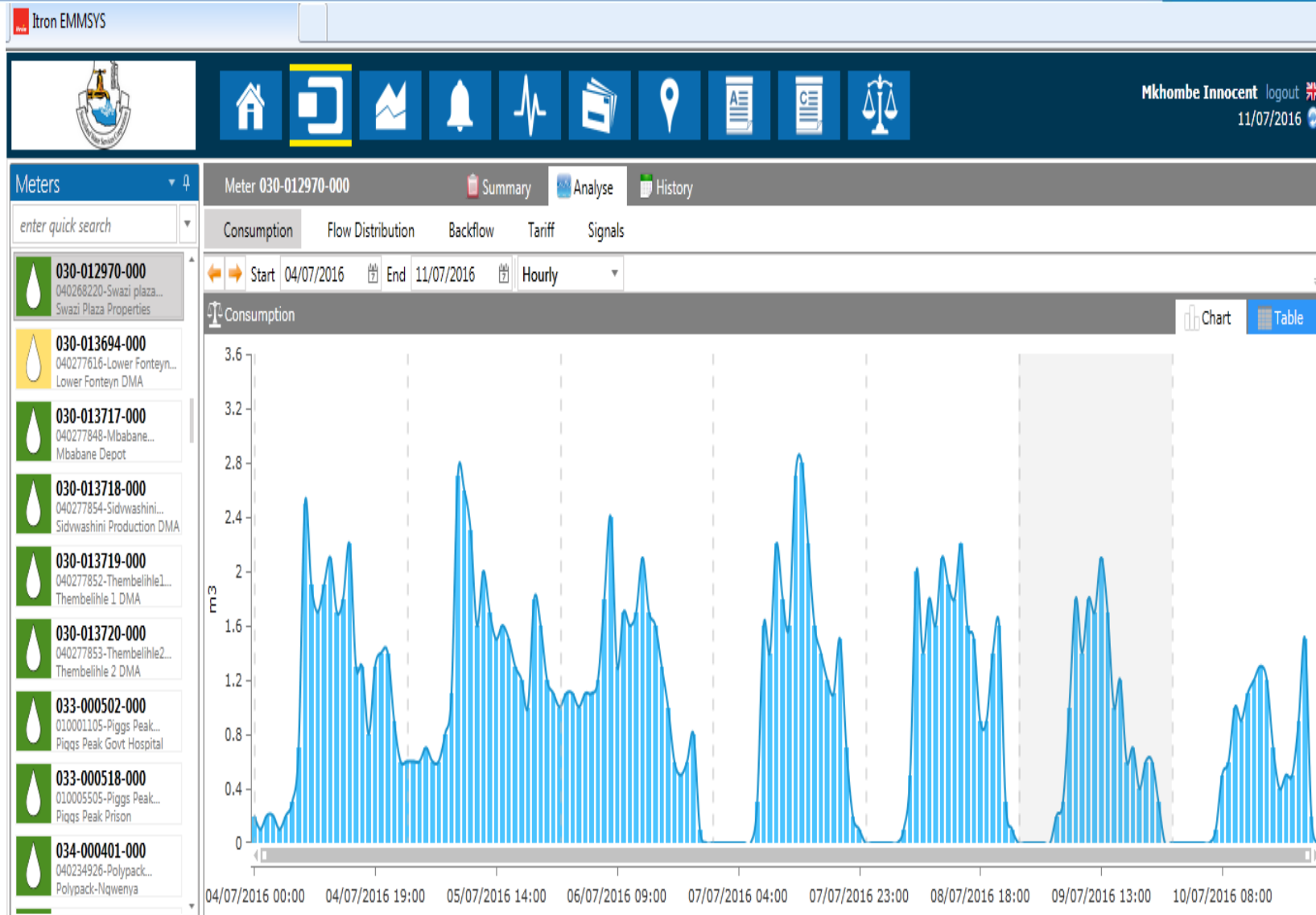
# HARNESSING ICT AT SWSC



## AMR SYSTEM

### Daily Data Transmission

- Hourly consumption values
- Daily flow-rate distribution (in volume and time)
- Real peak flow values with time of occurrences
- Back flow volume
- Meter is over-sized, under-sized
- Leakage detection
- Instant alarms



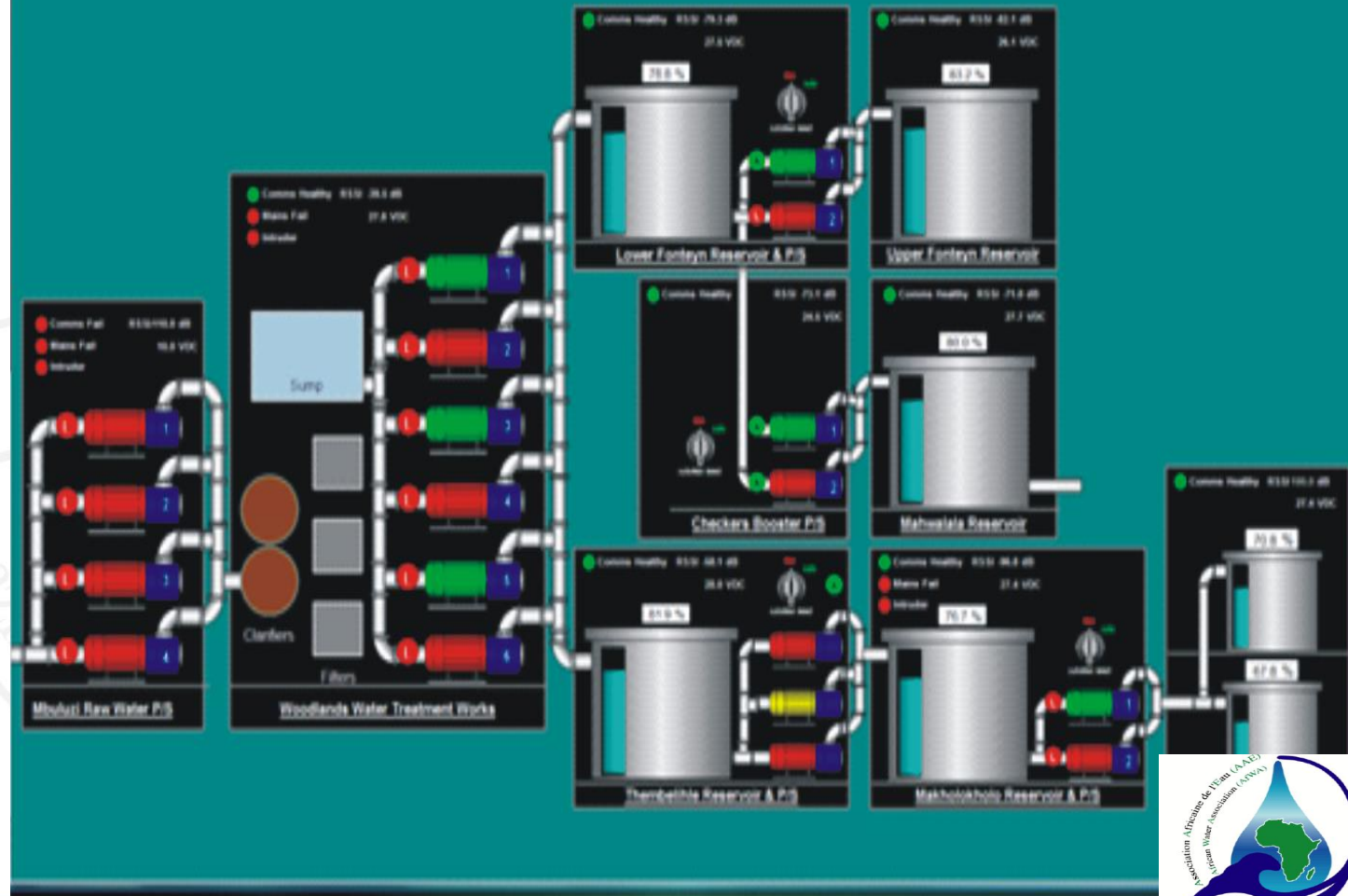
# HARNESSING ICT AT SWSC



- monitoring of reservoir levels
- online start / stop pumps
- altitude control valves – for gravity lines
- Auto (Simunye WTP)

## Pumping Stations & Reservoir Levels

Woodlands Reticulation System

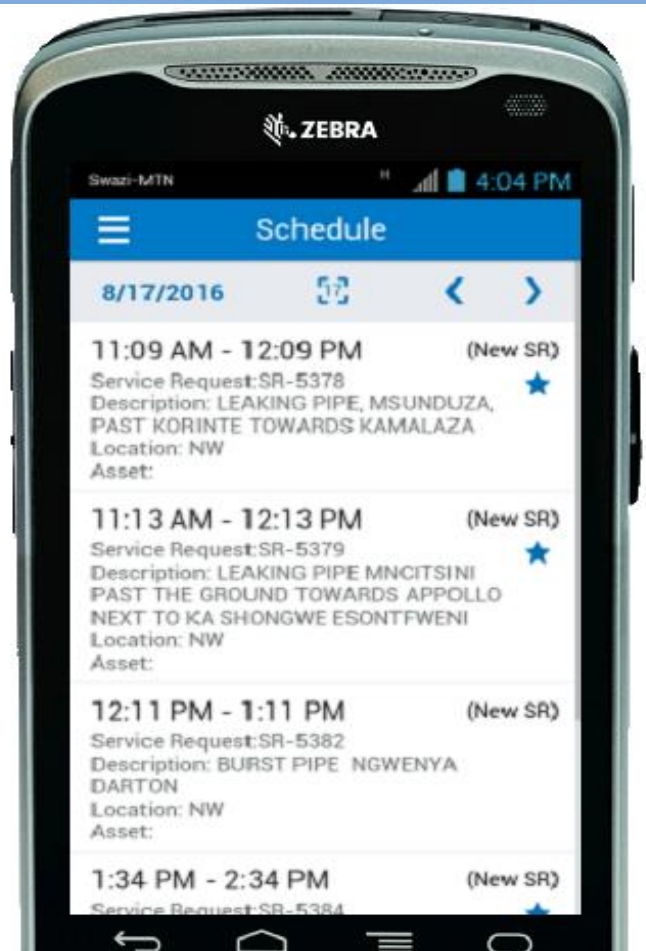


## achievements

- reduced overflow losses - 5%
- Improved efficiency through total control of operations & constant monitoring



# HARNESSING ICT AT SWSC



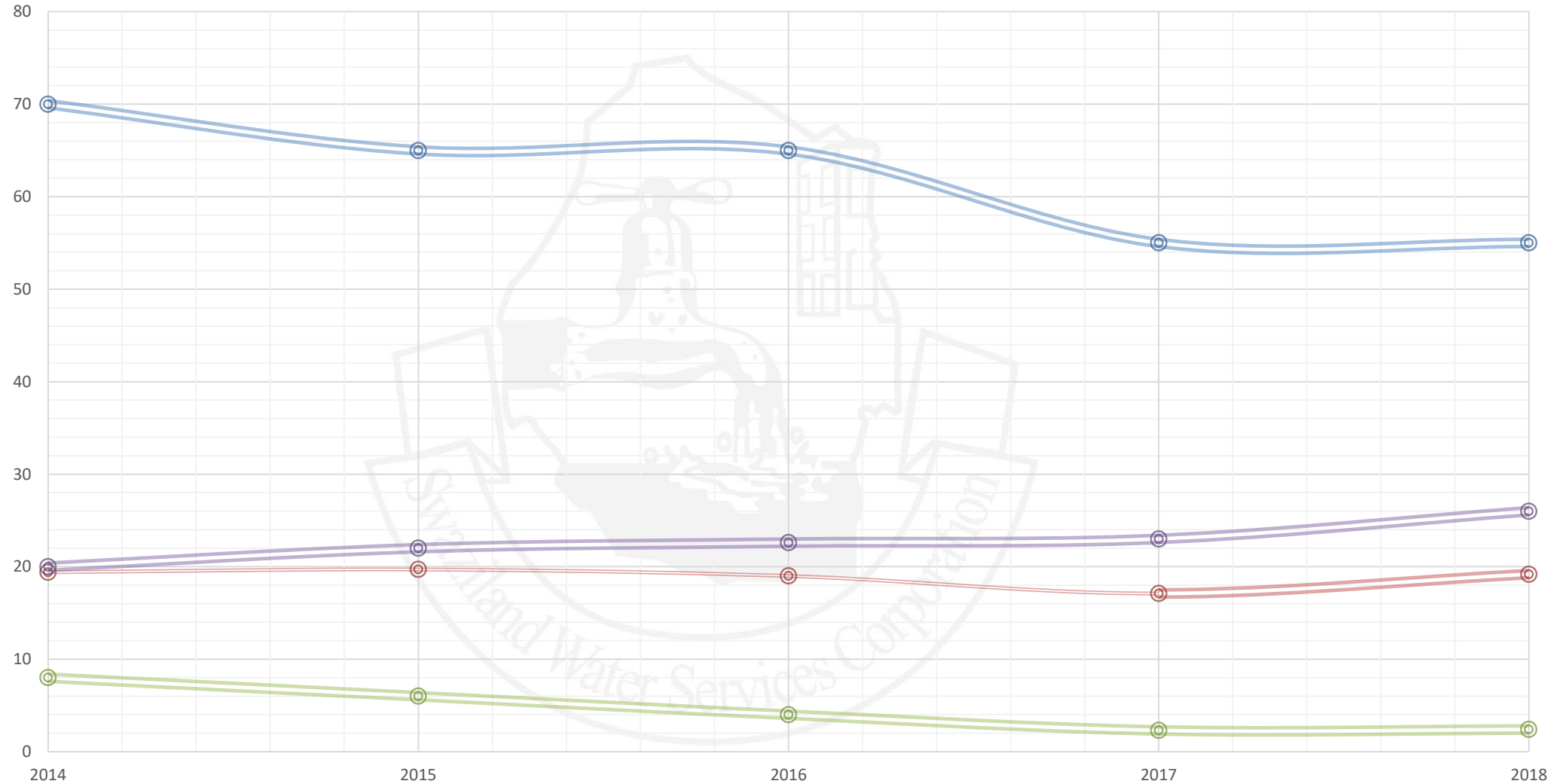
Maximo Asset Management

- Asset
- Work
- Service
- Planning & Scheduling
- Supply Chain
- Health & Safety
- Mobility
- Analytics



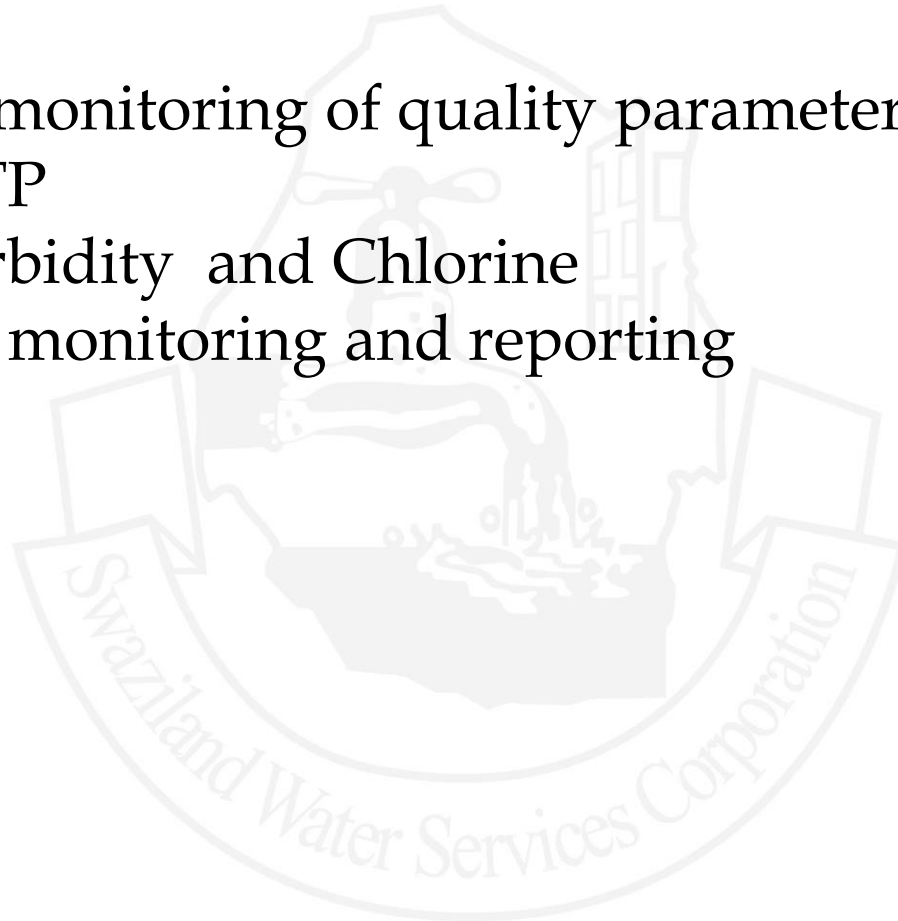
# ACHIEVEMENTS – PRESSURE MANAGEMENT

—○— Average Pressure    
 —○— Production volume(x106 m3)    
 —○— Infrastructure Leakage Index (ILI)    
 —○— revenue (USD Million)



## Quality and Compliance

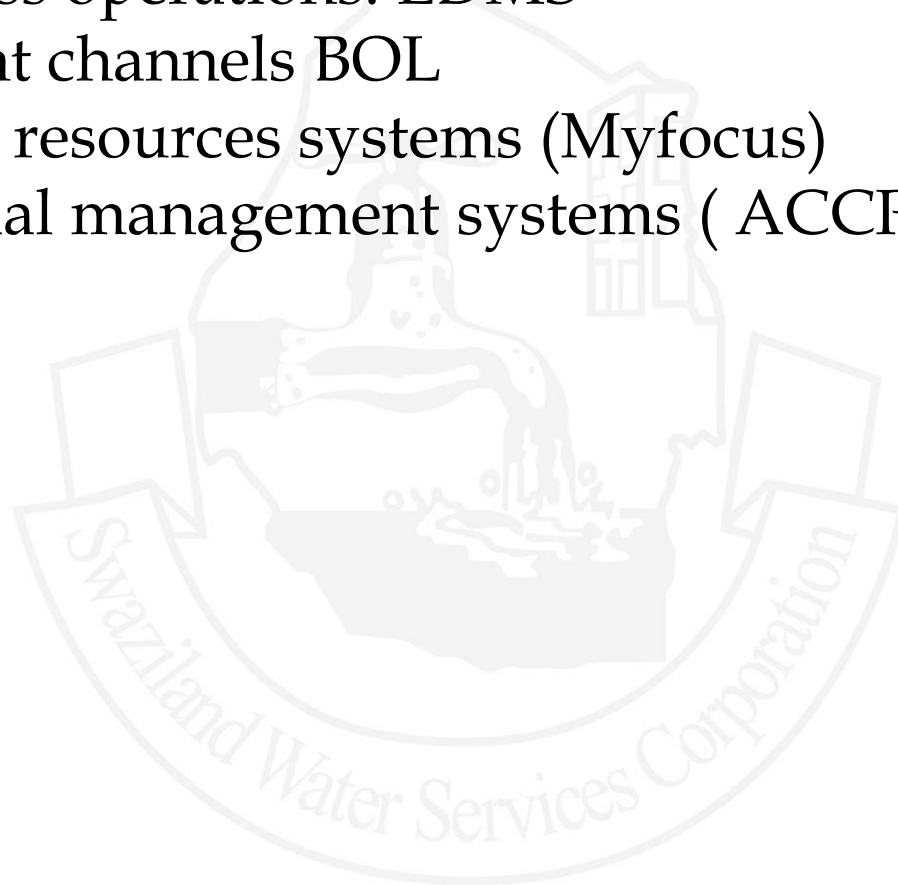
- Online monitoring of quality parameters in some WWTP and WTP
- pH, Turbidity and Chlorine
- Process monitoring and reporting



# Administration



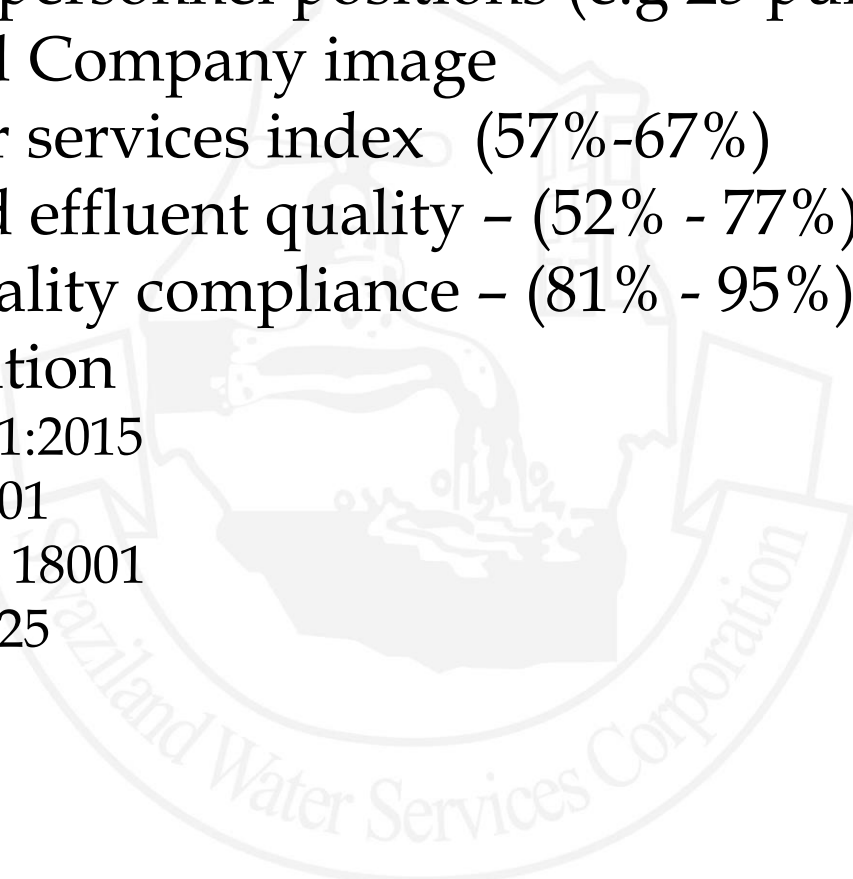
- Paperless operations: EDMS
- Payment channels BOL
- Human resources systems (Myfocus)
- Financial management systems ( ACCPAC)



# ACHIEVEMENTS



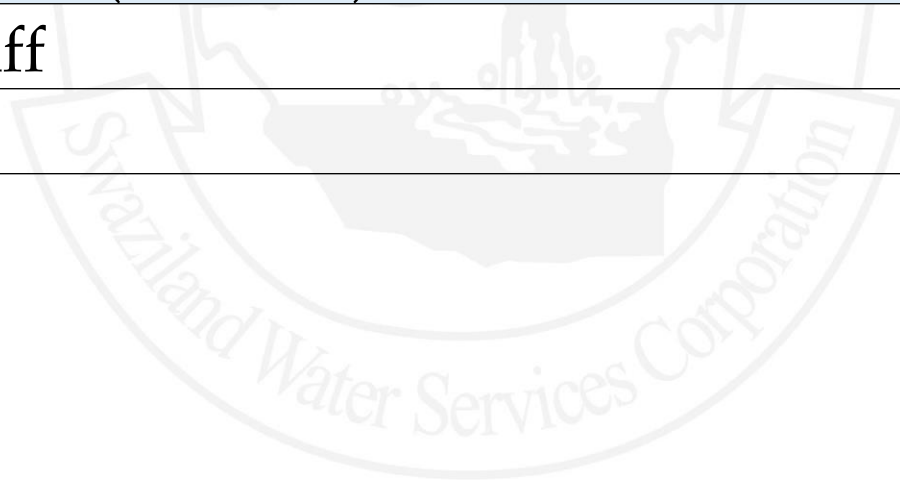
- Obsolete personnel positions (e.g 25 pump operators)
- Enhanced Company image
- Customer services index (57%-67%)
- Improved effluent quality - (52% - 77%)
- Water quality compliance - (81% - 95%)
- Accreditation
  - ISO 9001:2015
  - ISO 14001
  - OHSAS 18001
  - ISO 17025



# ACHIEVEMENTS



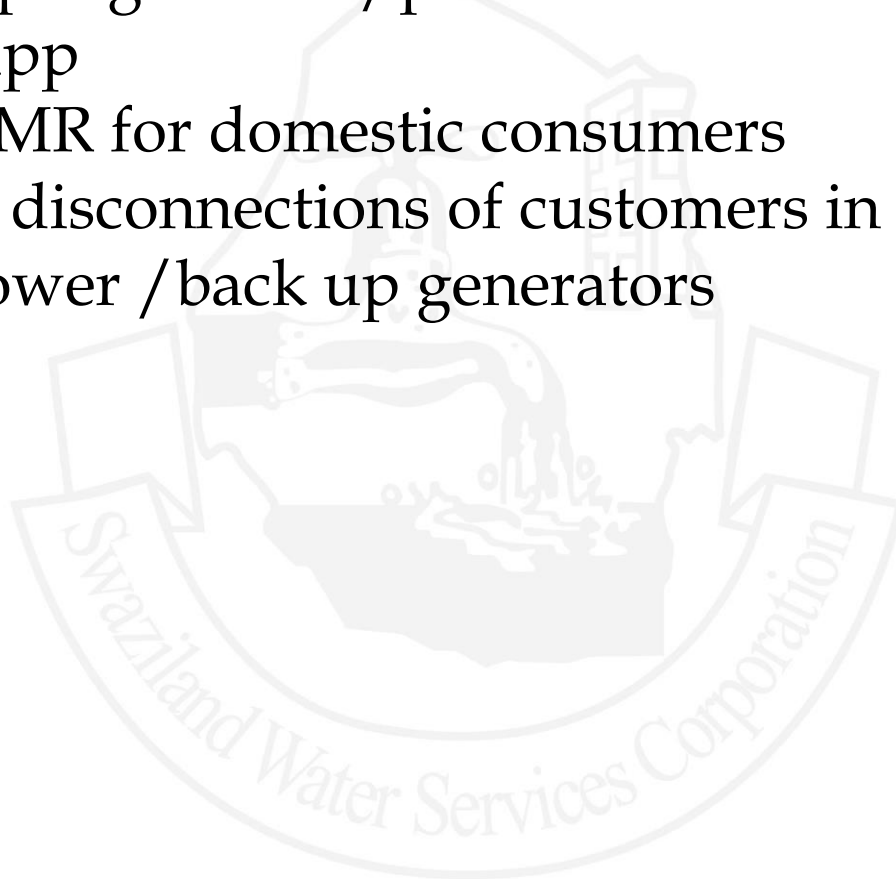
Item	% change
Size of Business (Assets) - %	185 ↑
Number of Customers - %	81 ↑
Annual Billed Volumes -	56 ↑
Increase - Income (2017/18)	158 ↑
Number of Staff	7 ↓
NRW	45 ↓

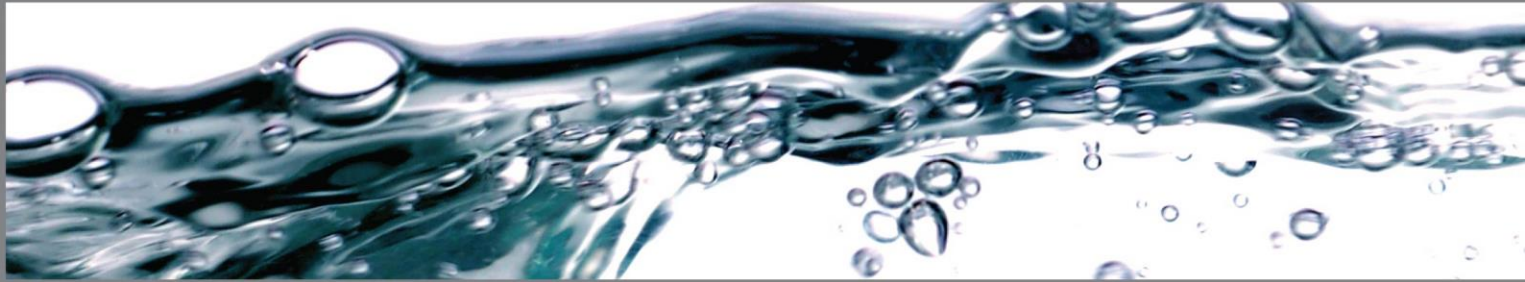


# Future outlook



- One stop digital hub/portal for all data and records
- SWSC app
- Pilot: AMR for domestic consumers
- Remote disconnections of customers in payment default
- Solar power /back up generators





Thank You

