

# **Revenue Enhancement** by Application of Fit-for-Purpose Metering Solutions

5 March 2021



### Agenda



Relationship between fit-for-purpose and revenue enhancement



Oxford dictionary defines fit for purpose as "Well equipped or well suited for its designated role or purpose."





- Industrial and Bulk Metering
  - Meter selection based on pipe diameter, nominal flow rates and functionality
  - Multiple sizes
    - DN50, DN80, DN100, DN150, DN200, DN300, DN500
    - Nominal flow rates from 15m<sup>3</sup>/h to 1500m<sup>3</sup>/h

- Residential Metering
  - Meter selection based on pipe diameter, nominal flow rates and functionality
  - Multiple sizes
    - DN15, DN20, DN25, DN32, DN40, DN50
    - Nominal flow rates from 1,5m<sup>3</sup>/h to 16m<sup>3</sup>/h







Improved accuracy Supported by manufacturers

Water Meter deployments are fit-for-purpose



### How is fit-for-purpose relevant for electricity metering?



Application	Fit for Purpose?
A – Power Plant	Yes
B – Step-up Transformer	Yes
D – Transmission Substation	Yes
E – Distribution Substation	Yes
F – Transformers	Yes
G - Home	?



Form I (Split or	Factor Combo)	Curren (Base Maxi Curr	t Rating e and mum rent)	Commu ty (RF / PL	nication pe .C / etc.)	
Functionality (Tamper detection, TOU, Logging, AMI, 4 Quadrant measurement)		Comp (SANS, s et	oliance STS, IEC, c.)			



#### Typically Split or Combo

### Split meter more tolerant to tamper

Combo meter inherently simpler and cheaper Simpler installation and maintenance

A split-type electricity meter is fit-for-purpose



Income Category	Living Standards Measure	Estimated Electricity Consumption (kWh), per household, per month	Percentage of Households	Maximum Current Requirement
Very low	1 to 4	180	22.5%	30A
Low	5 to 6	250	E2 20/	604
Lower middle	7	400	55.2%	OUA
Upper middle	8 to 9	600		
High	10	800	24.5%	100A
Very high	10	1000		

Source: City of Tshwane State of Energy Report 2017 and SAARF AMPS 2016

### An electricity meter rated 100A is over-rated for 75% of the applications, and is not fit-for-purpose





### An electricity meter with basic Radio Frequency communications is fit-for-purpose



#### How is functionality relevant in-a-fit for purpose electricity metering solution?





#### How is compliance relevant in-a-fit for purpose electricity metering solution?



**Compliance is mandatory for a fit-for-purpose solution** 

**CONLOG** Solutions for utilities

Specification	Typical Requirement	Fit for purpose requirement	Cost reduction
Form Factor	Split Meter	Split Meter	
Current rating	5(100)A	5(60)A	15%
Communication type	G3 PLC, Cenelec A band	RF, ISM band	15%
Functionality	4 Quadrant, TOU, logging	Active energy only	10%
Compliance	SANS1524, STS, ICASA	SANS1524, STS, ICASA	

A fit-for-purpose meter is approximately 40% cheaper, and will address 75% of the municipalities needs



Greater coverage with fixed budget	Decrease in unmetered connections	Increase in metered connections
Decreased infrastructure costs	Decreased operating costs	Increased customer satisfaction



## THANK YOU

