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**REACTIVE & PROACTIVE
REVENUE PROTECTION WITH
ADDAX AMI**

SOUTH AFRICA



**Financial loss in South-African
Utilities generated by:**

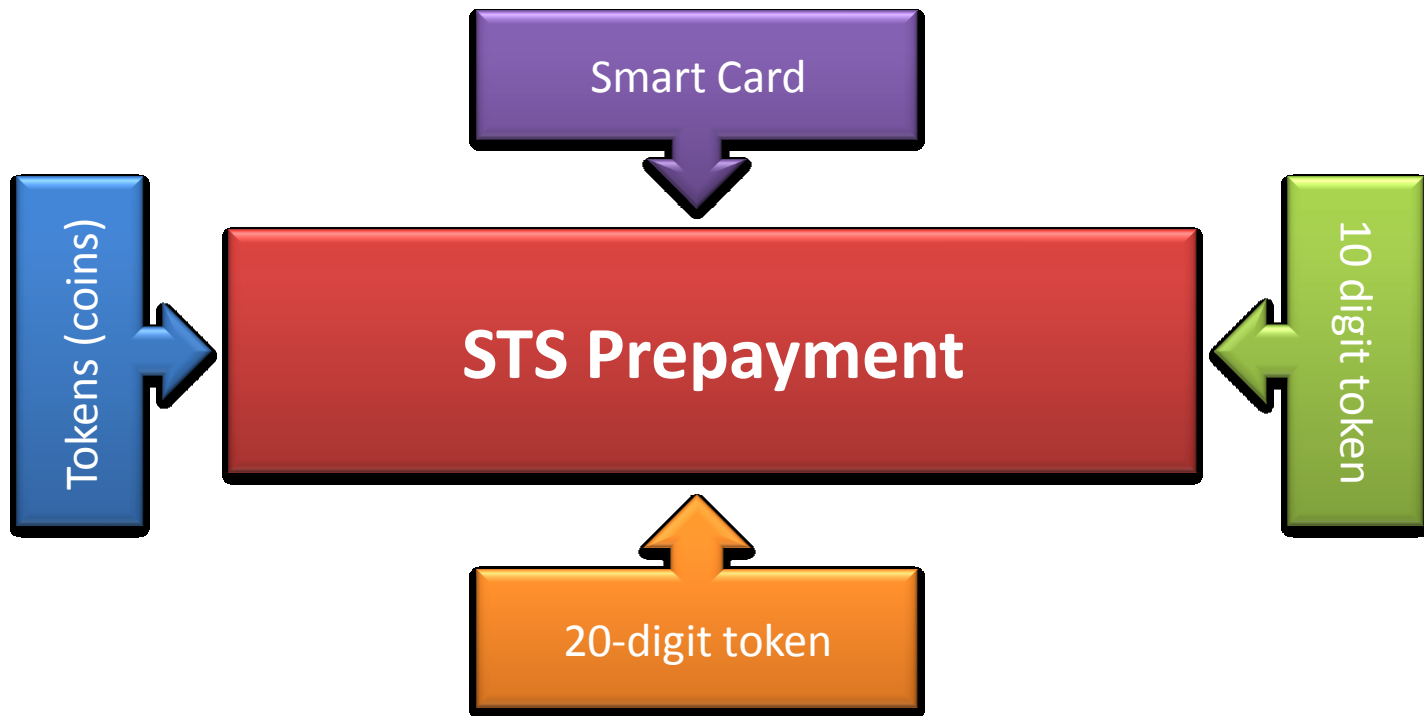
Low payment collection rate

Energy Theft

SOUTH AFRICA

Revenue Collection

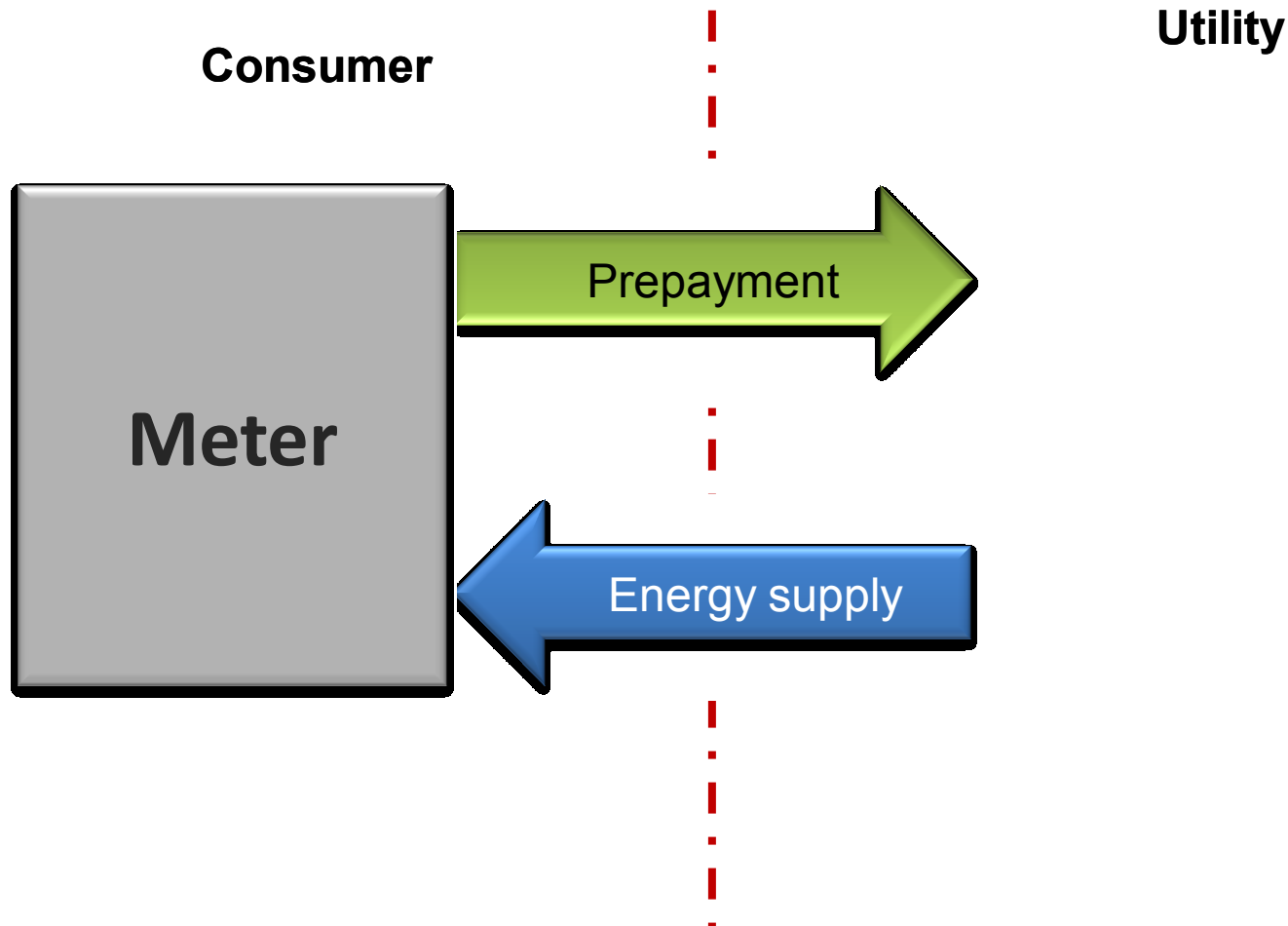
History of development of prepayment solutions



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EXISTING SOLUTIONS

PREPAYMENT (stand alone)



SOUTH AFRICA

Revenue Collection

Energy Theft

STS drawbacks

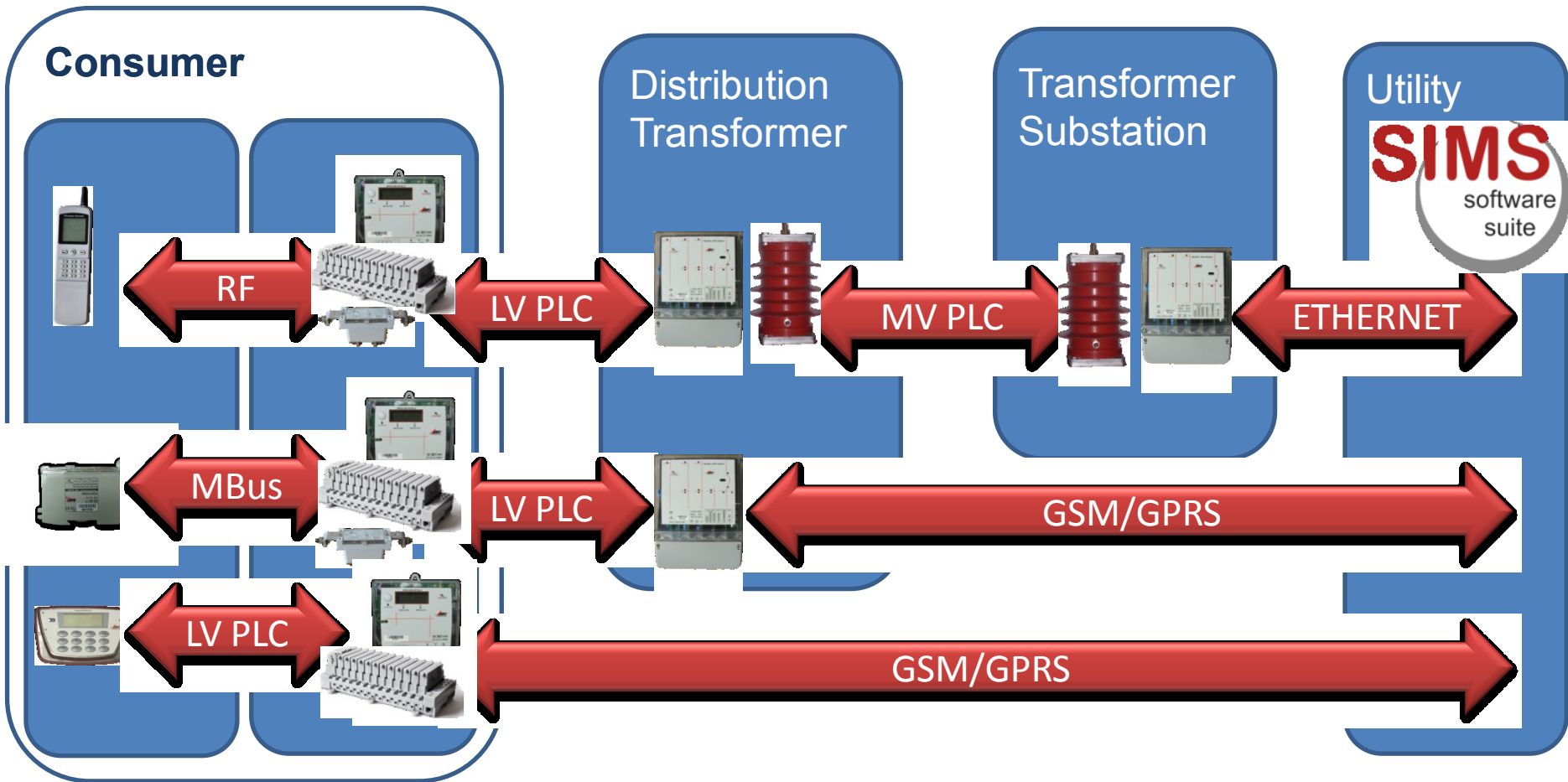
- **no** information on consumption
- **no** information on energy theft
- **no** possibility to remotely disconnect/reconnect consumers



*Eskom CEO Brian Dames:
“**Electricity theft costs South Africa an estimated R4,4 billion a year.**”*

ADDAX SOLUTION

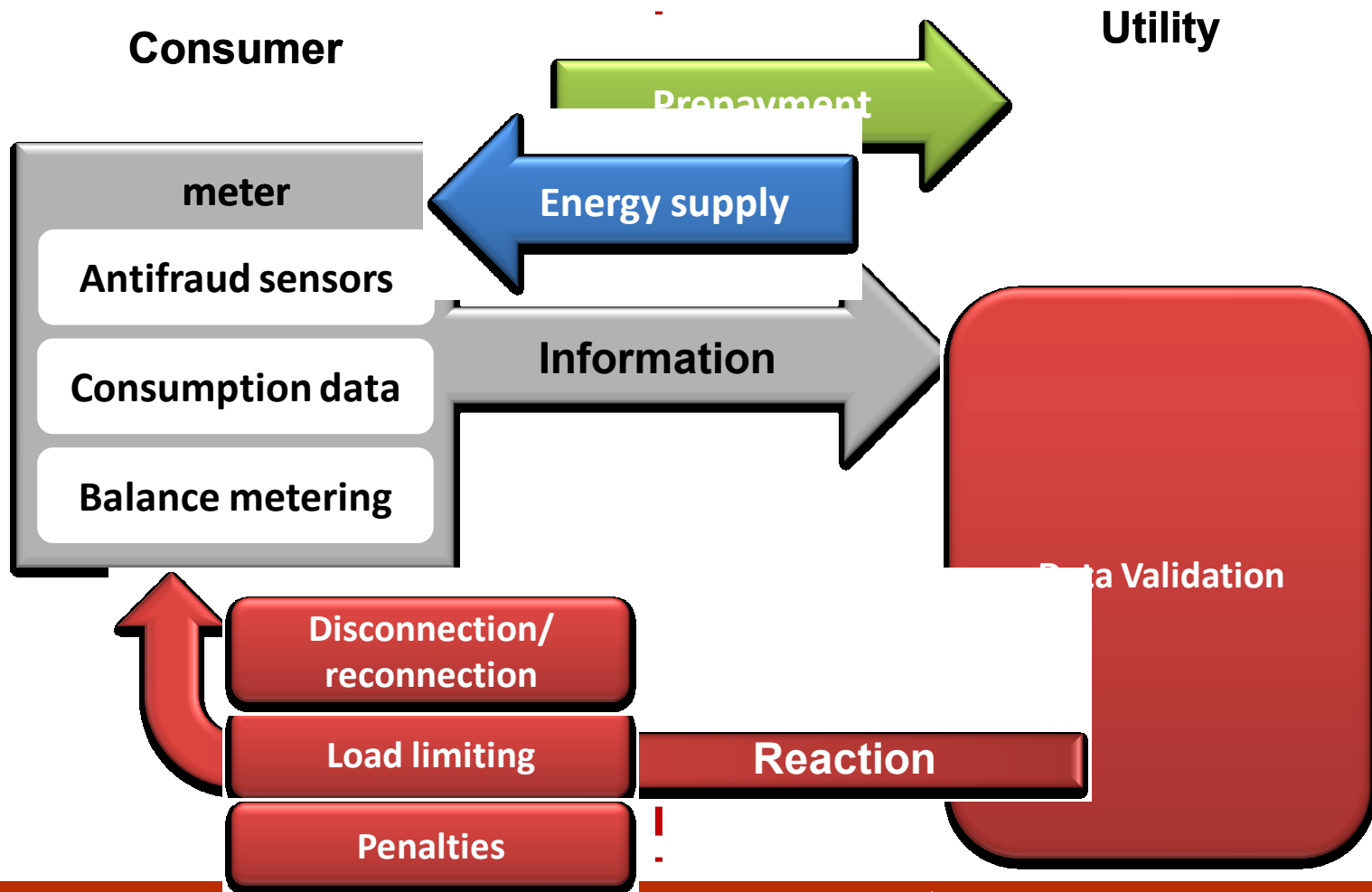
STS based on TWO-WAY data-exchange



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ADDAX SOLUTION

REACTIVE APPROACH



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ADDAX IMS METERS

BASIC FEATURES

LOAD MANAGEMENT

TOU tariffs

Load profiles (5 min. +)

Prepayment or Credit

Basic + Secondary relay



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ADDAX IMS METERS

ANTI-FRAUD FEATURES

iDIFF

Cover opening sensors

Magnetic field sensor

Two independent
measurement channels

Balance metering



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ADDAX IMS METERS

COMMUNICATIONS

**Interoperability (DLMS,
PRIME, 3G)**

**Integrated PLC modem (FSK,
S-FSK, OFDM)**

**Data-exchange over three
phases**

**Additional communication modules
GPRS or M-Bus (wire/wireless)**

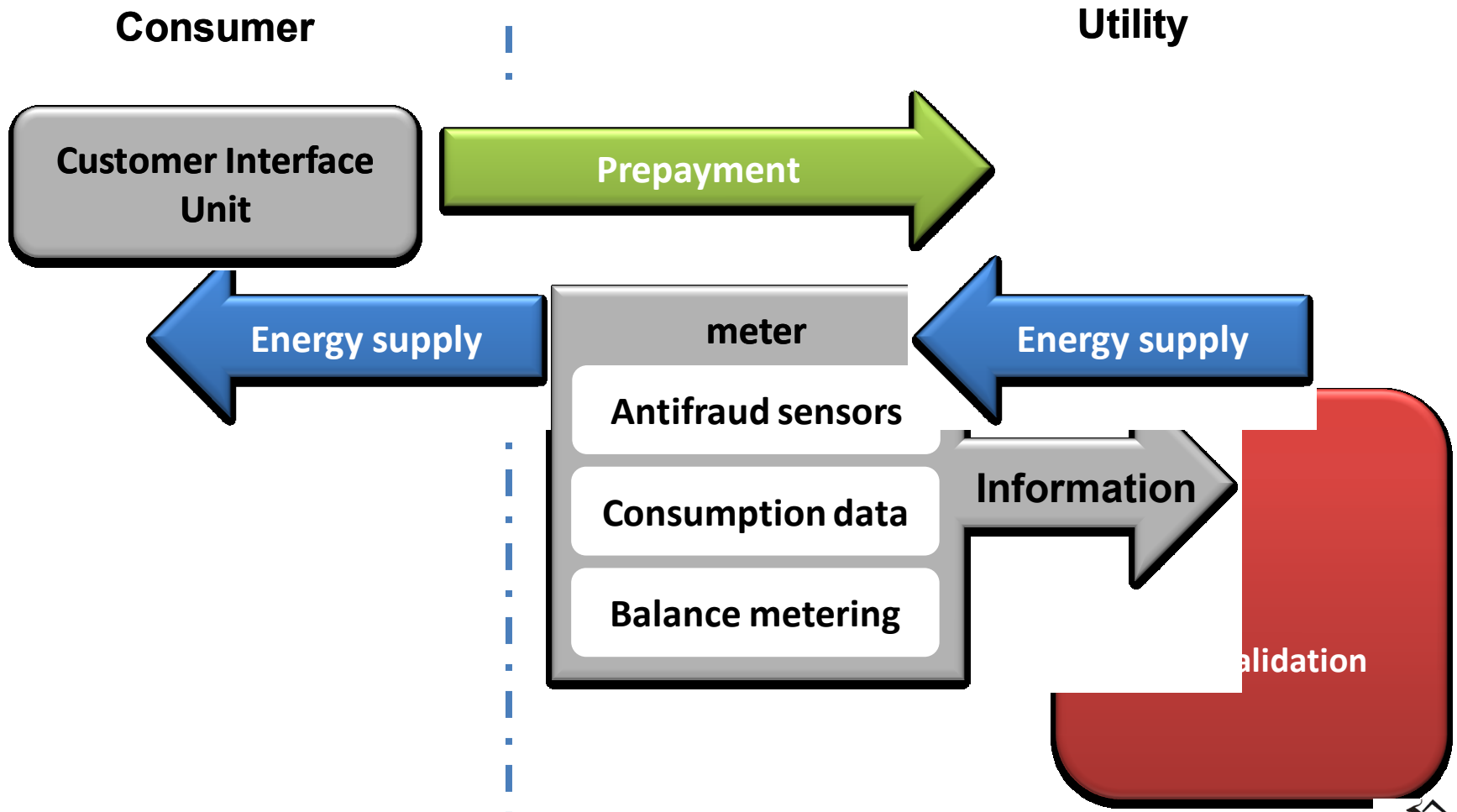
**Optical port for local data-
exchange**



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ADDAX SOLUTION

PROACTIVE APPROACH

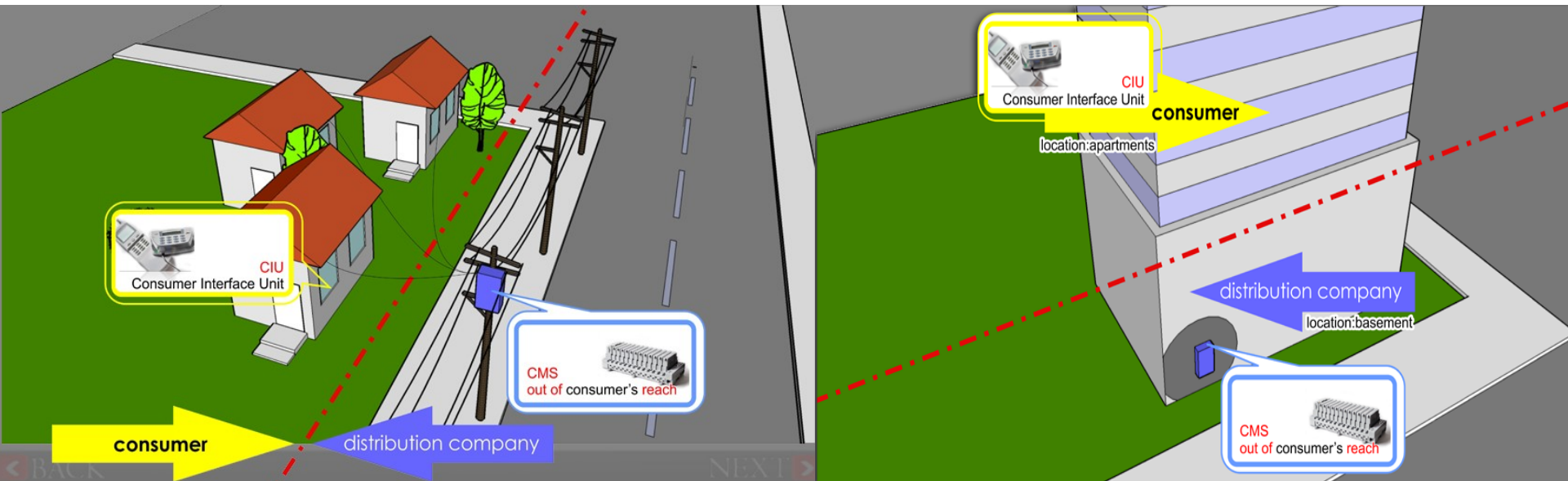


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CENTRALIZED METERING SOLUTION



**SECURED FROM
UNAUTHORIZED
ACCESS**



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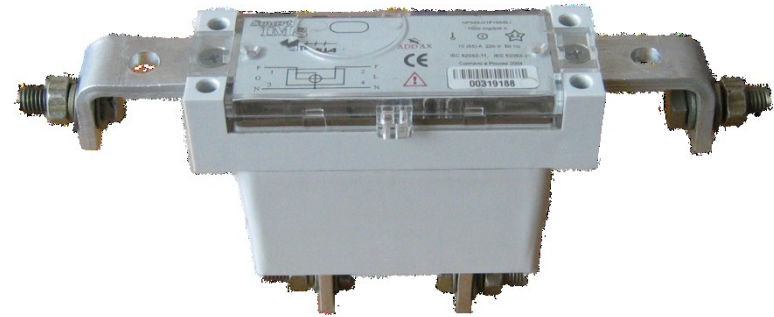
PROACTIVE REVENUE PROTECTION



**INACCESSIBLE FOR THE
CONSUMER**

**LOAD
MANAGEMENT**

TIME-OF-USE



2-WAY COMMUNICATIONS

PREPAYMENT

**COMPLETE
FUNCTIONALITY
OF A SMART METER**

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CENTRALIZED METERING SOLUTION



UNIQUE DESIGN

**MODULAR
CONSTRUCTION**

METER MODULE

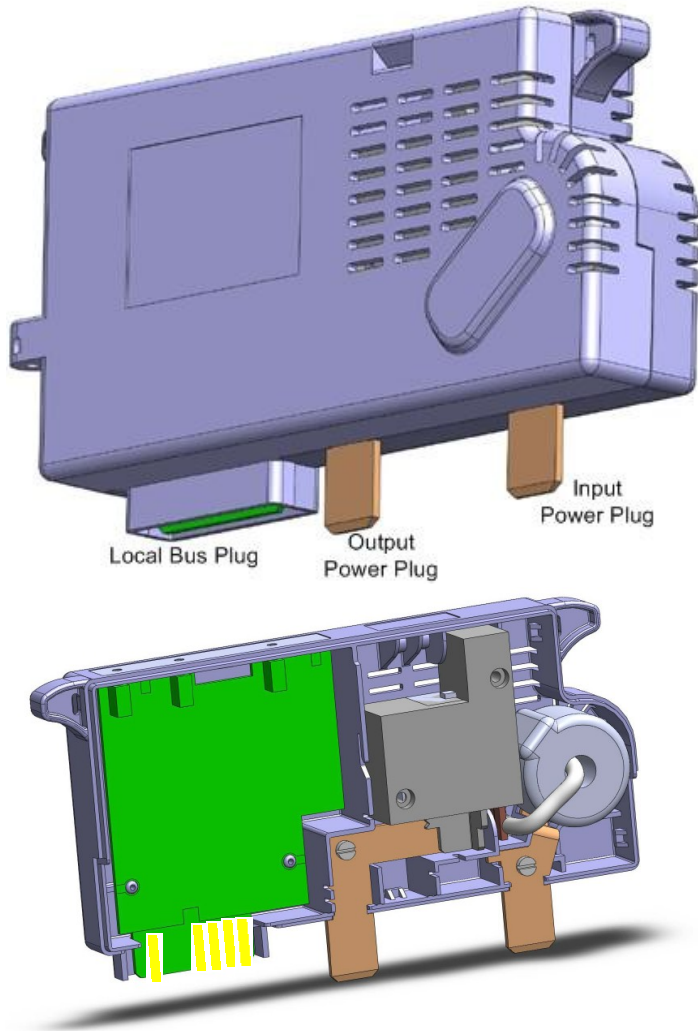
NET-NODE

BASE-BOARD

DISPLAY

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METERING MODULE



What does it provide?

+ LOAD MANAGEMENT THROUGH BUILT-IN RELAY

+ THREE-PHASE METERS FROM THREE SINGLE-PHASE MODULES

+ EASY-REPLACEABLE

+ REMOTE CONFIGURATION AND UPGRADE

+ LOAD PROFILES

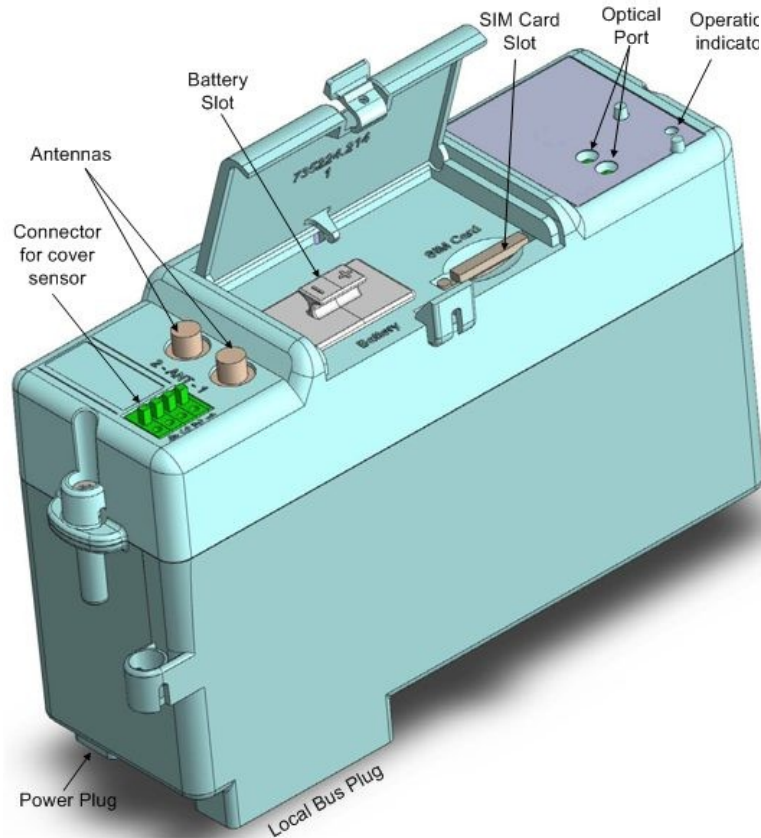
+ ACTIVE & REACTIVE ENERGY

+ ACCURACY CLASS 1

+ ENERGY QUALITY MONITORING

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NET NODE



What does it provide?

+ SYNCHRONIZES THREE-PHASE METERS DISCONNECTION

+ EQUIPPED WITH ADVANCED ANTI-FRAUD SENSORS

+ HAS BUILT-IN PLC MODULE (BASIC COMM. CHANNEL)

+ COMMUNICATES ON OPEN PROTOCOLS (DLMS/COSEM)

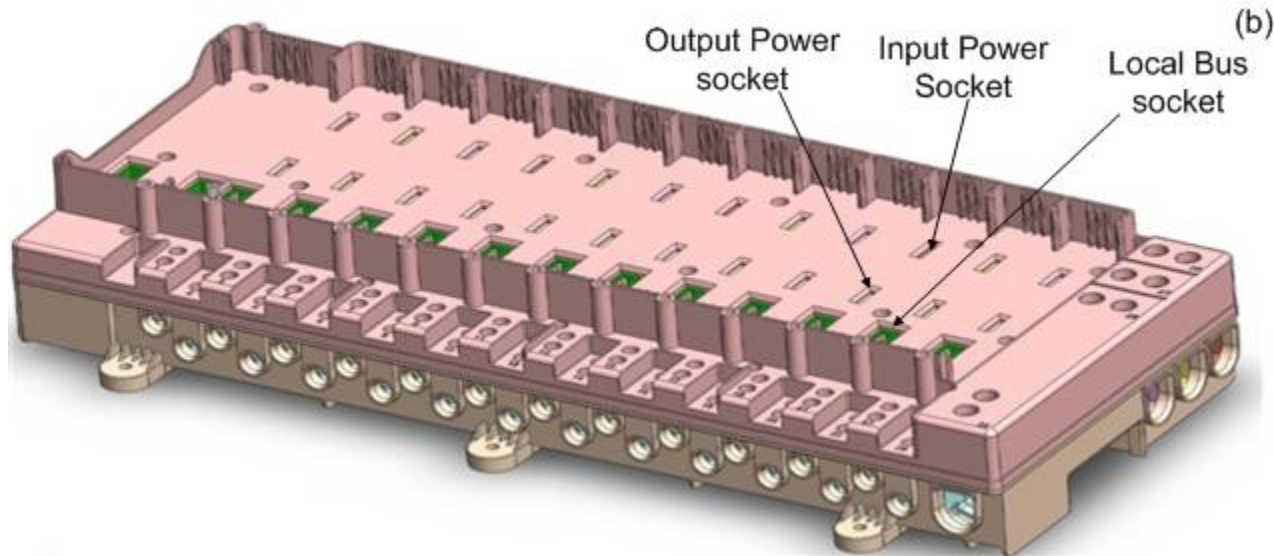
+ BUILT-IN GSM/GPRS MODULE (SECONDARY COMMUNICATION CHANNEL)

+ SUPPORTS UP TO 12 METERING MODULES IN ANY COMBINATIONS AND UP TO 12 DISPLAYS

+ STORES ARCHIVE CONSUMPTION DATA IN BUILT-IN NON-VOLATILE MEMORY

BASE BOARD

What does it provide?



+ EASY MOUNTABLE

+ DIFFERENT DESIGNS: 6, 9 OR 12 METERING MODULES

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DISPLAY

What does it provide?

**+ DIFFERENT DESIGNS FOR DIFFERENT NEEDS
(SIMPLE DISPLAYS AND CUSTOMER INTERFACE
UNITS)**

+ BUILT-IN PLC OR MBUS (RADIO) MODULES

+ STS COMPATIBLE KEYPAD

+ ALARM AND EVENTS DISPLAYING

+ SAFE RECONNECTION THROUGH SAFETY BUTTON



CMS

What does it provide?

+ LOAD MANAGEMENT (BUILT-IN RELAYS)

+ CREDIT OR PREPAYMENT (STS)

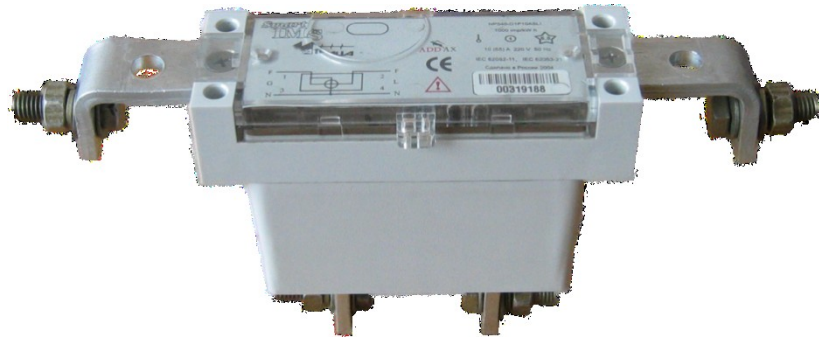
+ TIME-OF-USE

+ 2-WAY COMMUNICATIONS



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POLE MOUNTED METER



What does it provide?

+ LOAD MANAGEMENT THROUGH BUILT-IN RELAY

+ UNACCESSIBLE FOR THE CONSUMER

+ REMOTE CONFIGURATION AND UPGRADE

+ ACTIVE & REACTIVE ENERGY

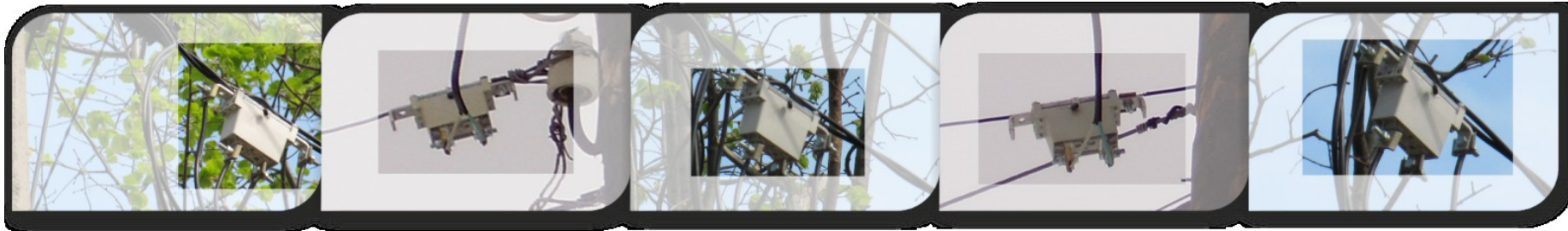
+ ACCURACY CLASS 1

+ ENERGY QUALITY MONITORING

CASE STUDIES: POLE METERS

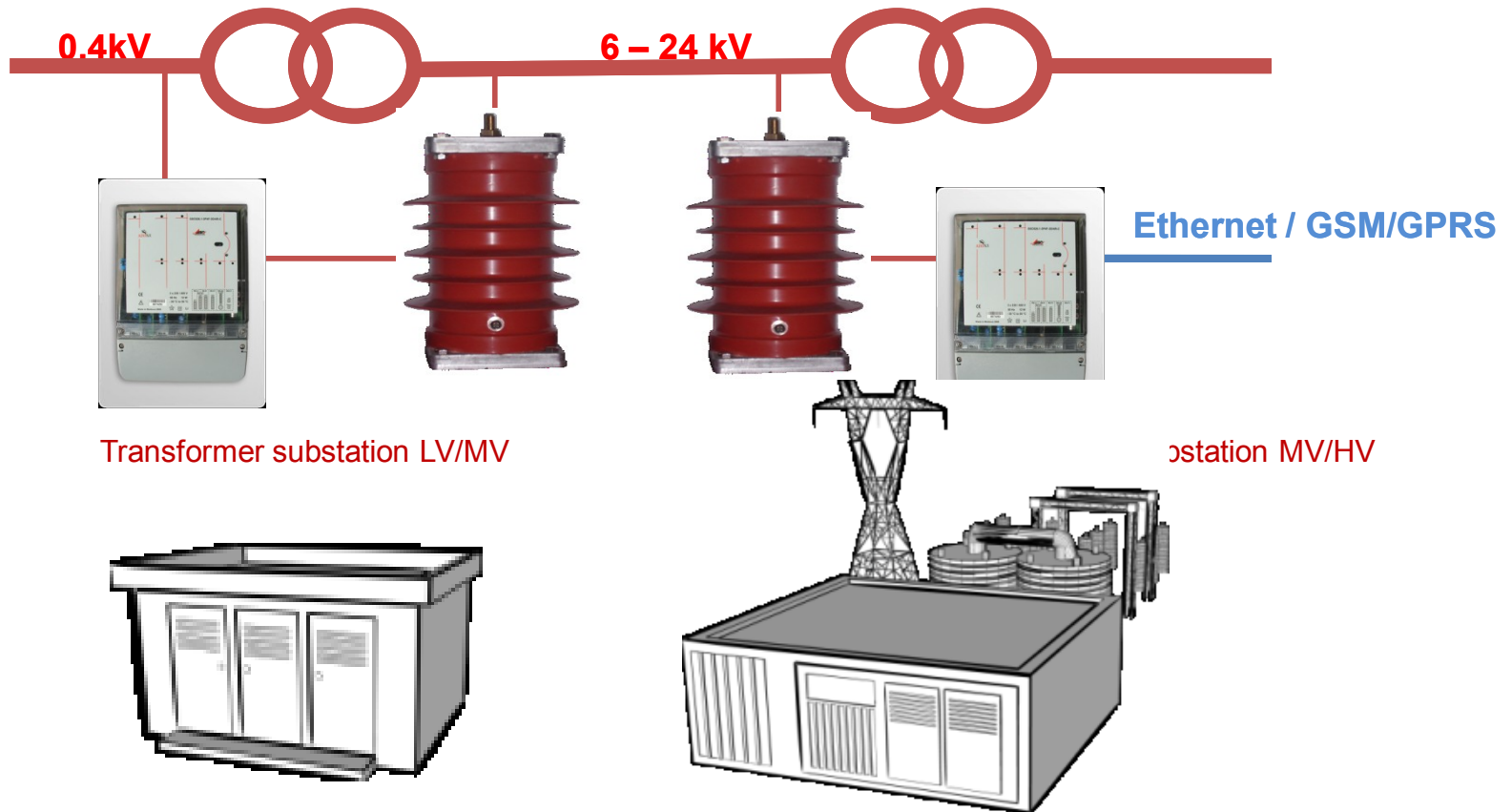
Customer	SAKHALYN ENERGY DISTRIBUTION
Location	RUSSIA, SAKHALYN
Number of ADDAX metering points	75 000
Pole meters	20 000+
Communications used	LV PLC + GSM/GPRS
Energy losses before	70%
Energy losses after	8%

Customer	BALACHYKHA ENERGY DISTR.
Location	RUSSIA, MOSCOW REGION
Number of ADDAX metering points	115 000
Pole meters	15 000+
Communications used	LV PLC + GSM/GPRS
Energy losses before	35%
Energy losses after	6%



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MEDIUM VOLTAGE PLC



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Why choose ADDAX prepayment solution?

Efficient antifraud protection

Reliable data collection

Guaranteed payment collection

Low hardware costs

Low maintenance costs

Low communication costs

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Thank you!