



HYDROLINK

SMART WATER BILLING HUB

SOLUTION PROPOSAL & PRODUCT OVERVIEW

Stop losing water revenue to manual reading and battery-bound meters.

An end-to-end smart water metering, monitoring, billing and payment platform built for landlords, estates, institutions and water service providers — with true real-time control that NB-IoT and LoRa meters cannot match.

6

HOUSES PER HUB

Real time

DATA & CONTROL

2 weeks

POWER BACKUP

KES 20

PER 1,000 L FEE

1 The water revenue problem

WHY THIS MATTERS

For most landlords, estates and institutions, water is one of the largest uncontrolled costs — and one of the easiest places to lose money. The losses are rarely dramatic; they accumulate quietly, month after month, through manual processes and uncollected balances.

THE HIDDEN COST OF THE STATUS QUO

- ✗ Inaccurate, estimated or skipped meter readings
- ✗ Recurring billing disputes with tenants
- ✗ Revenue lost to unbilled and unmetered consumption
- ✗ Late payments and accumulating tenant debt
- ✗ Labour-intensive monthly reading across many units
- ✗ No visibility of leaks or abnormal usage until the bill arrives

WHAT HYDROLINK DELIVERS INSTEAD

- ✓ Automated, sensor-based readings — no walking the property
- ✓ Bills generated automatically every cycle
- ✓ Prepay option that eliminates debt entirely
- ✓ Instant disconnection on zero balance, instant reconnection on payment
- ✓ Live consumption data and leak/usage alerts
- ✓ Secure M-PESA, bank and card collection into a landlord wallet

The core idea

Hydrolink is not just a smart meter. It is a complete, locally-powered **billing and control hub** that meters consumption, generates invoices, collects payment, and physically controls supply — all in real time, and even when the internet is down.

2 How the system fits together

ARCHITECTURE

A single Hydrolink Smart Hub serves up to six houses or units. Each unit gets its own flow sensor; prepay units also receive an electronic valve. Everything is powered and coordinated by the hub.



Smart Hub

On-site brain. Reads, stores, displays & controls. Works offline.



Flow Sensors

One per unit. Accurate, real-time consumption measurement.



Ball Valves

Prepay only. Remote, instant cut-off & reconnection.



Cloud Platform

Monitoring, reports, revenue & remote administration.



Payments

M-PESA, bank & card — straight to the landlord wallet.

Sensors and valves are powered directly by the hub. There are no batteries inside the field devices to deplete — a key difference explained on the next pages.

3 Two ways to bill — you choose

POSTPAY & PREPAY

The same hub runs either model, and you can mix both across units. Postpay automates the traditional monthly bill; prepay removes debt risk altogether by collecting before water flows.

Postpay — Automatic Monthly Billing

1. Consumption is measured continuously per unit.
2. Monthly usage is calculated automatically.
3. You set the billing date; invoices generate every cycle.
4. Tenants receive invoices via SMS / WhatsApp.
5. Payments flow into your landlord wallet.
6. Withdraw to M-PESA or bank at any time.

Tenant display shows: daily & monthly consumption in litres.

Prepay — Pay Before You Flow

1. Tenant buys water credit (token) at any time.
2. Credit loads to the unit automatically.
3. Consumption deducts from the available balance.
4. At zero balance, supply disconnects automatically.
5. On payment, reconnection is instant — in real time.
6. Revenue is guaranteed; no debt can accumulate.

Tenant display shows: available water balance & remaining credit.

4 Real-time monitoring & control

ALWAYS ON

See everything live

Live consumption, historical records, usage alerts and revenue reports stream to the cloud platform continuously — not once a day.

Act instantly

Disconnect or reconnect any unit on demand. Payment is verified in real time and the valve responds immediately.

Manage remotely

Administer every unit and every hub from one dashboard, 24/7, from anywhere — no site visit required.

Reliable through blackouts

Every hub includes a rechargeable battery with UPS function delivering **up to two weeks of operation** during power outages. Billing data is never lost, monitoring never stops, and the battery recharges automatically when mains power returns.

NB-IoT and LoRaWAN smart meters are capable telemetry devices — but they were engineered for one job: sending small readings infrequently on a tiny battery. That single design choice creates limitations that matter enormously for landlord billing, where you need **live data and the ability to physically control supply on demand**.

1. Periodic transmission — not real time

NB-IoT meters are built to transmit only periodically, very often just **once per day**. Between transmissions the radio sleeps to conserve power, so the "smart" reading you see is yesterday's snapshot. LoRaWAN is similar: typical Class A devices only open a brief receive window immediately after they themselves transmit.

Hydrolink polls its sensors continuously and streams live data — you see consumption as it happens.

2. Non-rechargeable batteries — a built-in shelf life

NB-IoT and most LoRa meters run on a **non-rechargeable primary battery** sized to last the meter's service life. When that battery depletes, the entire meter is effectively at end-of-life and must be replaced — an unavoidable, recurring fleet-replacement cost and a growing e-waste liability. The meter has a shelf life baked in from day one.

Hydrolink field devices carry no batteries at all — they are powered by the hub, which itself runs on mains plus a rechargeable UPS battery. Nothing in the field "expires."

3. Real-time disconnect & reconnect is impossible on a sleeping radio

Because an NB-IoT meter is asleep almost all the time to protect its battery, you cannot reliably reach it on demand — a disconnect or reconnect command simply waits in a queue until the device next wakes up, which may be many hours away. The same physics limit battery-powered LoRa Class A valves. For prepay, that means a tenant who pays could wait hours for water, and a defaulter could keep drawing water long after their balance hits zero.

Hydrolink's electronic ball valves are wired to and powered by the hub, so disconnection at zero balance and reconnection on payment are genuinely instant.

4. No dependence on cellular coverage or extra gateways

NB-IoT needs reliable mobile-operator coverage at the meter — difficult in basements and meter rooms — plus ongoing SIM/data costs. LoRaWAN needs you to deploy and maintain a separate gateway and network server. Either way, lose the link and the meter goes quiet.

Hydrolink stores and bills locally and keeps controlling supply even with no internet, then syncs to the cloud once the connection returns.

5 Side-by-side comparison

AT A GLANCE

How the three approaches compare on the factors that determine whether you actually collect your water revenue.

CAPABILITY	HYDROLINK SMART HUB	NB-IOT SMART METER	LORAWAN SMART METER
Data freshness	LIVE Continuous, real-time streaming	DELAYED Periodic, often once per day	DELAYED Periodic uplinks only
Power source	MAINS + UPS Hub-powered; rechargeable backup	PRIMARY CELL Non-rechargeable battery	PRIMARY CELL Non-rechargeable battery
Device lifespan	No field batteries — no shelf life	Replace meter when battery dies	Replace meter when battery dies
Instant disconnect / reconnect	Yes — truly instant	No — queued until next wake	Limited — only at receive window
Prepay with auto cut-off	Yes, enforced in real time	Weak — delayed enforcement	Weak — delayed enforcement
Works without internet	Yes — local storage & control	No — needs cellular link	No — needs gateway link
Extra infrastructure	None beyond the hub	Operator SIM & data plan	Gateway + network server
Built-in billing & payment	Yes — M-PESA, bank, card, wallet	Metering only — bolt-on needed	Metering only — bolt-on needed
On-site tenant display	Yes — per-unit on the hub	Meter-face only	Meter-face only
Cost model for 6 units	One shared hub & connection	6 radios + 6 SIMs + 6 batteries	6 nodes + shared gateway

WHERE NB-IOT / LORA STILL MAKE SENSE

For utility-scale telemetry where you only need an occasional reading and never need to control supply, low-power radios are a reasonable fit. We are not claiming otherwise.

WHERE HYDROLINK WINS DECISIVELY

The moment you need **live data, prepay enforcement, instant control, integrated payment and offline reliability** — the everyday reality of landlord and estate billing — the hub architecture is in a different class.

6 What you get & what it costs

BENEFITS & PRICING

KEY BENEFITS TO LANDLORDS & OPERATORS

- ✓ Automated water billing — zero manual reading
- ✓ Increased, more reliable revenue collection
- ✓ Reduced operational cost and admin time
- ✓ Fewer billing disputes through transparent data
- ✓ Real-time monitoring of every unit
- ✓ Secure digital payments and instant fund access
- ✓ Prepay model that eliminates tenant debt
- ✓ Resilient operation through power and network outages
- ✓ Transparent, fair billing tenants trust
- ✓ Future-proof smart infrastructure that scales

PRICING — EACH HUB SUPPORTS UP TO 6 HOUSES

Postpay Smart Billing Hub

Automatic monthly billing · up to 6 houses

CASH PRICE

**KES
65,000**

PAYGO OPTION

Deposit **KES 39,000**
Balance over **6 months**

Prepay Smart Billing Hub

Token purchase & auto cut-off · up to 6 houses

CASH PRICE

**KES
104,000**

PAYGO OPTION

Deposit **KES 62,000**
Balance over **8 months**

KES 20

PER UNIT · 1,000 LITRES

A simple, fair service fee covers everything:

- ✓ Cloud services & platform access
- ✓ Data management
- ✓ Automated billing
- ✓ Payment processing
- ✓ Monitoring platform
- ✓ Technical support

7 Installation & deployment

2–4 WEEKS

1

Site assessment

We survey your property and plan unit-by-unit installation.

2

Install & configure

Professional fitting of hub, sensors and valves, fully configured.

3

Commission & train

System commissioning, platform activation and user training.

Typical lead time: 2–4 weeks maximum from order to a live, fully commissioned system.

IDEAL APPLICATIONS

Rental apartments

Student hostels

Residential estates

Commercial buildings

Institutional housing

Staff housing

Water service providers

Property developers



HYDROLINK

Let's turn your water from a **cost centre** into **reliable revenue**.

Book a site assessment and we'll show you, on your own property, exactly how much faster and more completely you'll collect — with control that battery-bound meters simply cannot offer.

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LEAD TIME

2–4 weeks to live