



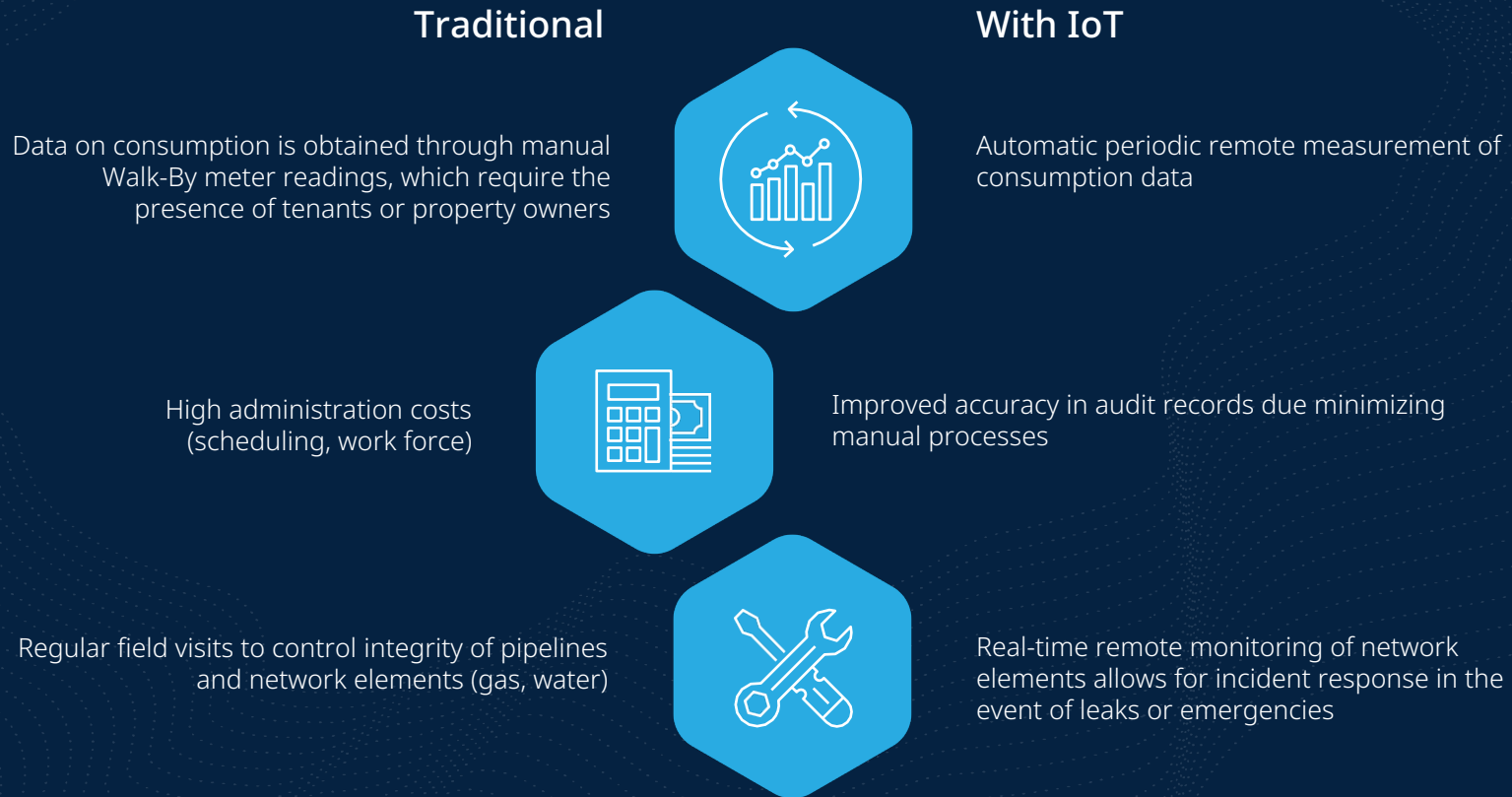
Smart Metering

Connectivity Playbook



Benefits of IoT for Smart Metering

IoT has progressed significantly in the last 10 years so how does this affect your smart metering?

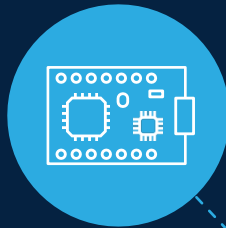


Advantages of IoT along the Value Chain

While the benefits of IoT are clear, how will this directly affect your business?

Hardware and equipment manufacturers

Provide IoT components that guarantee interoperability and full functionality (e.g. includes reliable and licensed embedded connectivity option onto HW)



System integrators

Enable utility companies to optimize network and consumption monitoring



Tenants, building owner, occupants

Provide a transparent overview of energy consumption patterns and save costs due to lower maintenance fees e.g., for meter reading services or repairs



Meter vendors

Equip meters with smart gateways that allow for remote consumption monitoring



Sub-metering companies

Enhance service portfolio by convenient remote metering services of energy consumption data

An Overview of IoT Applications

Understanding the applications of IoT are important to ensure that you can connect to what you need.

IoT Application		Transmission		Typical Data				Explanation
		Send	Receive	Status	Usage	Location	Updates	
	Electricity Meter	↑			✓			Regular remote monitoring of electricity consumption data sent via smart meter gateway
	Gas Meter	↑			✓			Regular remote monitoring of gas consumption data sent via smart meter gateway
	Water Meter	↑			✓			Regular remote monitoring of water consumption data
	Heat Cost Allocators	↑			✓			Regular remote monitoring of heat cost consumption data
	Concentrators	↑		✓	✓			Receives consumption data from up to 250 metering devices and sends them to the server
	Leak Prevention (Gas, Water)	↑	↓	✓		✓		Measures pressure and heat of gas and water pipelines to prevent emergencies
	Energy Storage	↑	↓	✓	✓		✓	Remotely monitors and manage battery levels and energy production at local energy plants (PV, biogas plants, wind turbines, etc.)
	Network Monitoring	↑	↓	✓	✓	✓		Monitors network infrastructure to prevent incidents and outages
	Smart Grid	↑	↓	✓	✓			Optimizes network usage (voltage management, power factors) for stability

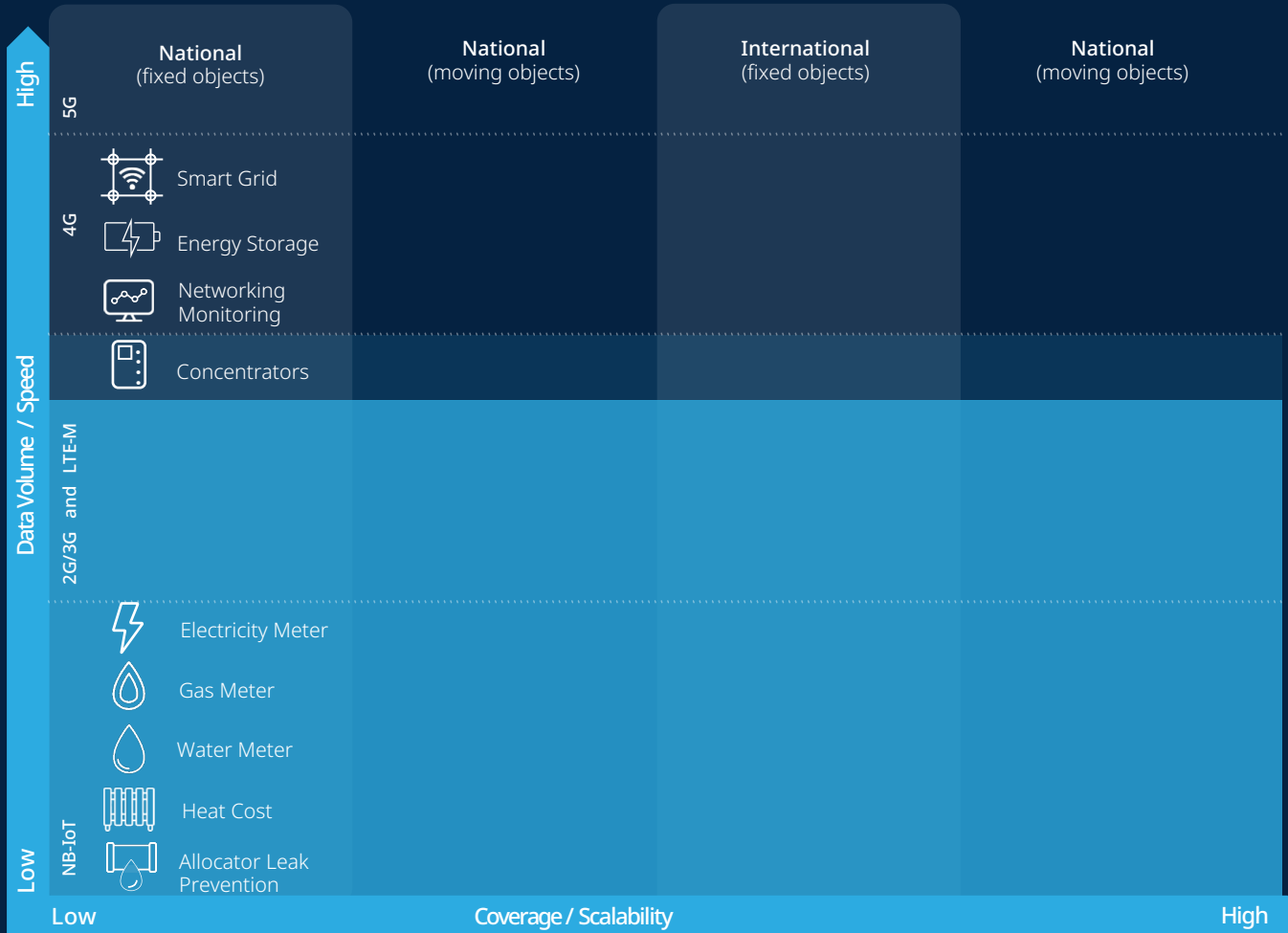
Sources: Beecham Research, 1NCE

Status monitoring: Identifier, On-Off status, Integrity, alerts Usage data: consumption data, time patterns, pressure, voltage etc. Location: GPS localization or other.

Mapping Applications Requirements

To support your connectivity solutions, uncover what applications 1NCE can provide for your business.

■ Fully covered ■ Depends on use case



Most common **connectivity types** within the use case:

PLC & 2G (GPRS)

- Provides a fast and reliable connectivity solution
- Widely available, well understood and trusted
- Suited for most meter reading applications
- 2G (GPRS) is most often used in the utility market

4G (LTE)

- Supports high bandwidth & low latency (as required by smart grid or energy storage)
- Use cases remain rare and are often still under development

NB-IoT

- Best option for use cases such as gas or water meters due to the requirement of deep indoor penetration and long lifetime cycles
- Will be fully available in most European countries within the next few years

LTE-M

- Comparable to NB-IoT
- Enables smart meter solutions
- Supports bandwidths up to 1 Mbit/s
- Optimized for deep indoor

Wireless M-Bus

- Used in metering projects
- Technology lacks scale which limits appeal

Sources: 1NCE, Statista, Beecham Research

1NCE Offering

1NCE is a perfect match with the Smart Metering solutions, meeting all basic requirements while addressing key challenges:

Requirements	Typical customer challenge	Why 1NCE is the best match?	Standard solutions
Data & Pricing	- All-in-1 solution - Cost transparency - Low & high data projects' support	All-in-1: \$10/10 years for connectivity & software One-time cost: no monthly or hidden fees Lifetime Flat: 500 MB, 250 SMS + extra High Data IoT: \$5/GB, speed 25 Mb/s	- Complex & fragmented pricing, costly integrations - Monthly, fixed & hidden fees - No high-data requirements met
Coverage	- Global coverage - Cellular and LPWA radio technology - Multiple networks and operator switch	173 countries coverage; no zoning or local pricing discrepancies - Integration with LPWA networks Freedom-to-Switch to change providers without replacing a SIM	- Region or zone-restricted coverage - NB-IoT and LTE-M limitations (10-20 networks globally) - Complex contracts and vendor lock-in
Services	- Device control through one interface - Interoperability with 3rd party services	Device monitoring and management included 3rd party software, like Datacake, Mender, Microsoft Azure, natively integrated with 1NCE OS and CMP	- Extra costs for monitoring & data management - Limited compatibility with third-party IoT software
Longevity	- Supports emerging technologies - Ability to switch operators - Services are liable for the device lifecycle	NB-IoT or LTE-M for devices with lifecycle of 10+ years eSIM (eUICC) for flexible, multi-operator functionality Reliable cellular-based networks & Tier 1 operators	- Limited LPWA, especially in challenging environments - Extra costs due to network or service changes - Short-term contracts and pricing models

The 1NCE Promise

Simplify your value chain with an **all-inclusive model** and additional features & services.

1NCE All-in-One Solution

1NCE IoT Lifetime Flat

\$10 for 10 years lifetime subscription

1NCE Connect

- ✓ 500 MB, 250 SMS
- ✓ 173 countries coverage
- ✓ NB-IoT, LTE-M, 2G, 3G, 4G
- ✓ Connectivity management platform
- ✓ Unlimited API usage
- ✓ VPN, APN included

1NCE OS

- ✓ Device Authentication
- ✓ Energy Saver
- ✓ Device Inspector
- ✓ Device Locator
- ✓ Device Integrator
- ✓ Freedom-to-Switch

1NCE SIM Card
depending on the application

- + IoT SIM Card Business \$1
- + IoT SIM Card Industrial \$2
- + IoT SIM Chip Industrial \$2.50



Extra Services

Top-up Option

when a device reaches data limits in 10+ years

- + Extra 500 MB & 250 SMS for \$10

Lifetime Extension

for those who want to exceed 10 years

- + Extra 10 years for \$10

1NCE Plugins

available to trial for free

- + FOTA by Mender
- + Data Visualization by Datacake
- + Azure IoT Integration by Tartabit
- + Device Debugging by Memfault

Alternative Products

1NCE High Data IoT

for projects with high data requests

- + \$5/GB, speed 25 MB/s



About 1NCE

Delivering **IoT software and connectivity** for life.

1NCE is a company offering a software platform for connected products that delivers future-proof, hassle-free IoT in 173 countries and regions. The software platform enables customers to easily, securely and reliably collect device data and turn it into actionable intelligence. This accelerates time-to-market for data collection projects by months, increases device lifetime by years, and allows efficient management of sensors from initial deployment to the end of the product lifecycle. More than 23,000 users and 60 Fortune 500 companies trust 1NCE with 30 million connected products worldwide.

With 20%, unsurprisingly utility customers mark the biggest share of the 1NCE customer base. Currently, we manage IoT projects for [Utilities](#) in more than 95 countries worldwide.



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