

Energy and Water Guide 2026/27

Partnerships and Perspectives of Arab-German Cooperation

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Water Management



Egypt's New Administrative Capital © Deutsche Wasser

Public-Private Partnership in a Water Utility

Building Resilient Water Services Through Long-Term Collaboration

Deutsche Wasser

New cities are being built in many parts of the world, particularly in the Middle East, Africa, and the Far East. Ghorfa member Deutsche Wasser International has taken over the operation of the water infrastructure (water, wastewater, irrigation) for the New Capital Cairo, Egypt, as a shareholder in ACwater, a company jointly established with the Egyptian government for this purpose. The operation of this vital component of the supply system for the metropolis, planned for 7.5 million inhabitants, with Phase 1 largely completed for 2.5 million residents. The New Capital was already underway in 2025 for the 34 Egyptian government ministries and the first thousands of residents.

Water utilities worldwide are facing a fundamental transformation. Rapid urbanization, climate change, increasing water scarcity, and rising expectations for reliable public services require new approaches to infrastructure management. While engineering excellence remains essential, the long-term success of water infrastructure increasingly depends on operational performance over decades rather than construction alone.

Public-Private Partnerships (PPPs) offer an effective framework for combining public ownership with private operational expertise. When designed as long-term partnerships with clearly defined responsibilities, they can strengthen utility performance while preserving the public interest.

Why Operations Matter

Infrastructure projects are often associated with planning and construction. However, the largest share of value is created during operations and maintenance, which typically account for nearly half of an infrastructure asset's lifecycle costs. This makes operational excellence a decisive factor for service quality, efficiency, and sustainability.

Modern utilities must therefore go beyond maintaining existing assets. They need to reduce water losses, improve energy efficiency, integrate digital technologies, and develop resilient operating models capable of adapting to changing environmental conditions.

The New Generation of PPPs

Traditional PPP models often focused on financing and construction. Today, international infrastructure markets increasingly favor long-term Operations and Maintenance (O&M) partnerships, where public authorities retain ownership while experienced operators contribute management systems, technical know-how, and innovation throughout the asset lifecycle.

A successful utility partnership is built on several principles:

- clear governance structures,
- long-term performance incentives,
- local capacity building,
- technology transfer,
- and shared responsibility for service quality.

These principles become particularly important in rapidly growing metropolitan regions.

Signing Ceremony Arab-German Business Forum Berlin 2025 © Ghorfa / ElSauaf



Water for Egypt's New Administrative Capital: A Practical Example

One of the most ambitious examples of this model is ACwater, the utility operating the Water- and Wastewater Systems of Egypt's New Administrative Capital (NAC) or as called in everyday language, New Capital.

Located approximately 45 kilometers east of Cairo, the NAC represents one of the region's largest urban development projects. The city covers around 950 km² in its first development phase and is designed to serve 2.5 million residents by 2035, with long-term expansion plans reaching 7.5 million inhabitants.

To operate this extensive water infrastructure, a dedicated utility company was established through a long-term PPP structure.

Governance Designed for Long-Term Success

ACwater operates under a 15-year partnership with the Administrative Capital for Urban Development (ACUD).

The shareholding structure combines public leadership with private expertise:

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ACwater
SMART WATER OPERATIONS

Framework of the partnership


Service Level Contract for the Management, Operation, and Maintenance Services for the Wet Utilities of the New Administrative Capital of Egypt

Between

Administrative Capital for Urban Development (ACUD) S.A.E.
(hereinafter the "SERVICE BUYER")

[Administrative Capital Water] S.A.E.
(under establishment)
(hereinafter the "SERVICE PROVIDER")

DWI Deutsche Wasser International GmbH

Engineering Consultants Group ECG S.A.E.

Cairo, Egypt

In May [ ] 2025

ACwater is the water service company in a long-term partnership (15 years) with ACUD

Shareholding structure:

- **ACUD** (City authority) – 51% | majority, asset owner
- **DWI** (Subsidiary of Tilia) – 41.5% | strategic partner
- **ECG** (Subsidiary of Dorsch) – 7.5% | Egyptian engineering partner

Governance:

Chairman: Ahmed Fahmy (ACUD)

CEO: Christophe Hug (DWI)

Strategic objectives:

- Transfer **German best practices** in utility management
- Deploy **smart water systems**: central SCADA, smart leak detection
- Ensure **efficient resource management**, including re-use of treated wastewater for irrigation and energy-neutral wastewater treatment plants

- 51% ACUD – public majority ownership and asset stewardship
- 41.5% Deutsche Wasser International (DWI) – strategic operations partner
- 7.5% ECG - Egyptian Engineering Partner

This governance model preserves public control while enabling international operational expertise and local engineering capabilities to work together.

Designing Infrastructure for Efficient Operations

The partnership demonstrates that sustainable performance begins with infrastructure designed for operational efficiency.

Approximately 70% of the drinking water network operates through gravity-fed pipelines, reducing pumping requirements and electricity consumption.

Likewise, the first-phase wastewater network was planned with 100% gravity flow toward the treatment plant, significantly lowering long-term energy demand.

The raw water supply itself reflects this integrated planning approach: three large parallel transmission pipelines, approximately 50 kilometers long, transport up to 1.5 million cubic meters of water per day from the Nile system to the city's treatment facilities.

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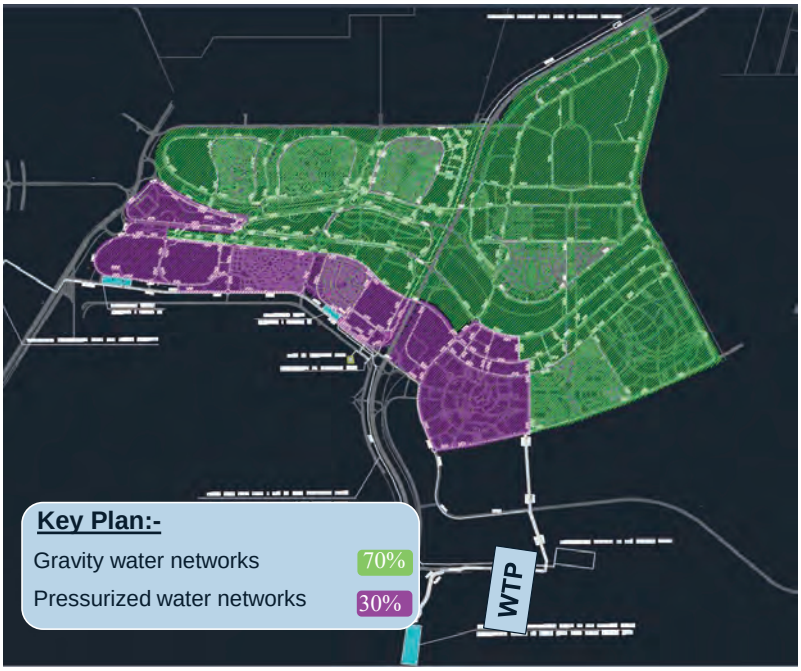
ACwater
SMART WATER OPERATIONS

Water Network in the New Capital



Nearly **70%** of water networks in the first phase of NAC is **under gravity** pipelines **to reduce the usage of pumps and electricity.**

WTP will be at the **highest point in NAC at 443** M.S.L to serve the majority of NAC with water by gravity pipelines.

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From Infrastructure to Smart Utility Management

The operational concept extends beyond conventional utility management.

ACwater integrates digital technologies, including centralized SCADA systems, smart leak detection, and digital network management. At the same time, treated wastewater is reused for irrigation, supporting urban green infrastructure while conserving freshwater resources.

A Model for Sustainable Water Partnerships

Global water management is entering an era where historical assumptions about water availability no longer provide reliable guidance. Climate change increases uncertainty, making resilience, adaptability, and long-term governance essential elements of future water strategies.

Public-Private Partnerships cannot solve these challenges alone. However, when structured around shared accountability, local partnerships, and operational excellence, they become powerful instruments for improving utility performance.

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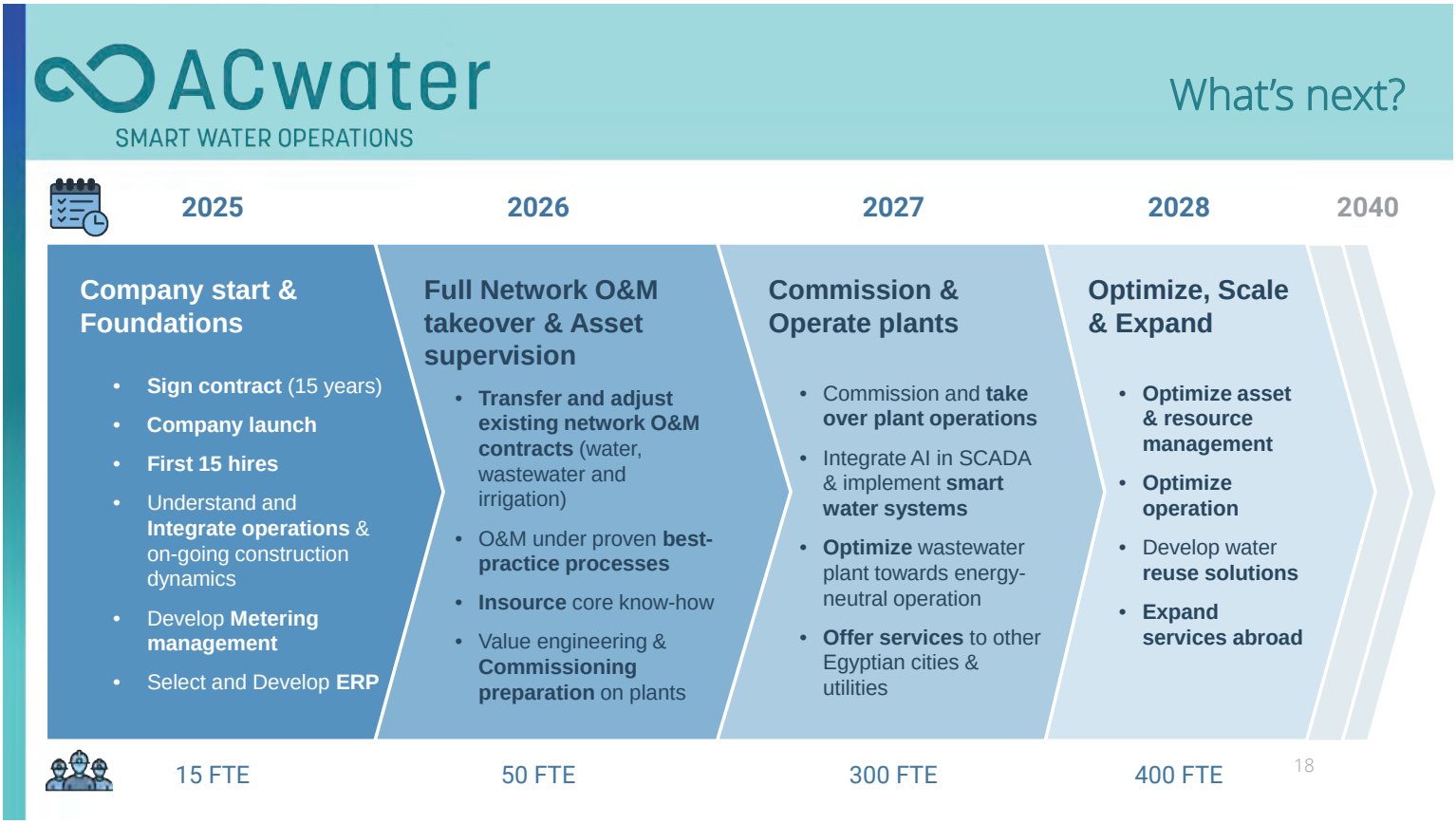

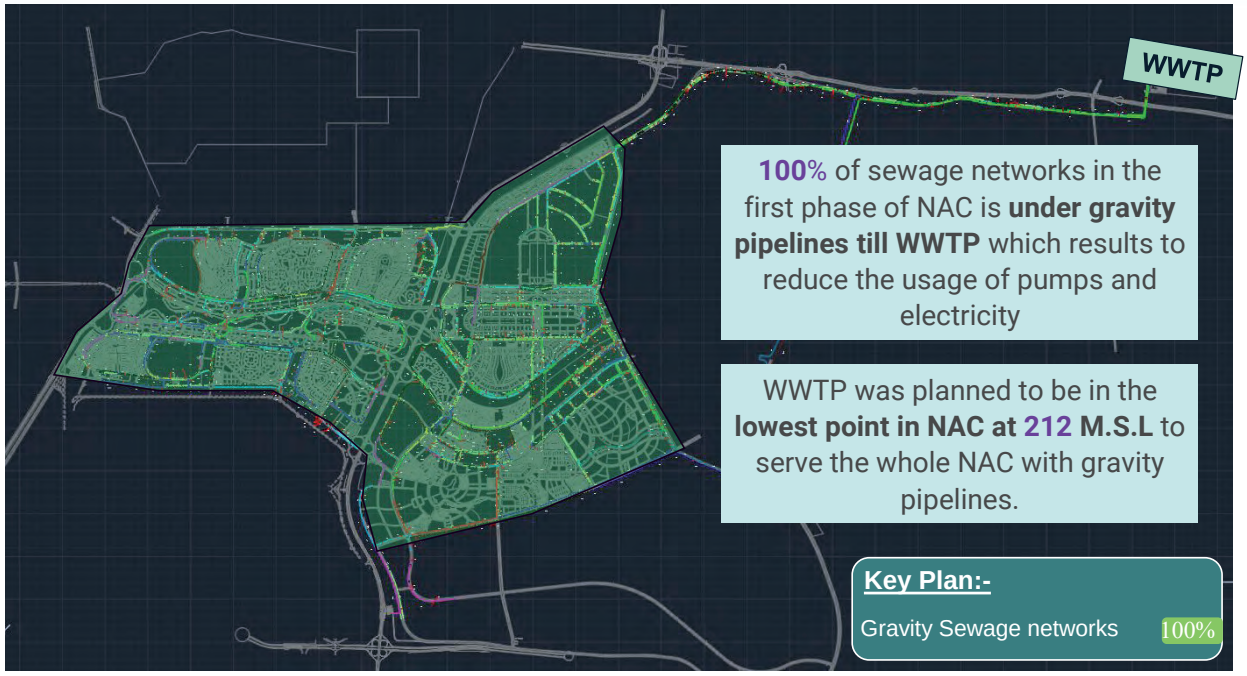

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The ACwater experience demonstrates how public institutions, international operators, and local engineering partners can jointly create a utility model that combines public stewardship with operational innovation. As cities across the Middle East and North Africa continue investing in resilient infrastructure, this collaborative approach offers valuable lessons for delivering reliable, efficient, and sustainable water services for future generations.



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