

AQUINTAQA

Executive Summary

Version 1.0

January 2026

Pre-NDA Public Summary

1. Project Overview

AQUINTAQA is developing a desalination platform based on a volumetric gas-sorbent process.

The technology is designed for controlled extraction of dissolved salts from saline water through a cyclic physico-chemical mechanism involving gas activation and selective sorption media.

The objective of the platform is to provide an alternative to conventional membrane-based desalination systems with potential advantages in modularity, operating stability, and feed-water adaptability.

2. Technology Concept

The process architecture includes:

- Gas phase activation module
- Sorption media interaction chamber
- Regeneration loop
- Controlled separation stage

The system operates in volumetric mode rather than through surface membrane filtration.

Core operating principles have been validated in laboratory and prototype environments.

3. Development Status

The project has progressed through staged experimental validation.

Current status (public scope):

- Core principle experimentally confirmed
- Repeatable directional salt removal demonstrated
- Prototype subsystems assembled and tested
- Controlled sample conditions verified

Extended validation (NDA scope):

- Integrated pilot configuration
- Multi-feed testing
- Continuous operation cycles (>800 hours cumulative)
- Independent laboratory analysis (before/after metrics)

Detailed validation data is available under NDA in the secure Data Room.

4. Validation Framework

Testing has been conducted under controlled laboratory conditions and pilot environments.

Measured parameters include:

- Conductivity reduction
- Salinity concentration change
- Process repeatability
- Stability across feed variations

Independent third-party laboratory assessments have been completed for selected test cycles.

Documentation is available upon request under confidentiality agreement.

5. Engineering Status

The system architecture has been defined at prototype level.

Next technical phase includes:

- Industrial engineering design
- Process optimization
- Modular scaling assessment
- System integration refinement

No commercial-scale deployment has yet been executed.

6. Regulatory and Compliance Orientation

The platform is being developed with reference to international potable water standards, including:

- WHO guidelines
- EU drinking water directives
- US EPA standards

Formal certification processes have not yet commenced.

7. Organizational Structure

The project is supported by an international team of engineers and researchers with backgrounds in:

- Chemical engineering
- Process design
- Fluid systems
- Applied physics

Operational and advisory roles are defined but not publicly detailed at this stage.

8. Intellectual Property

The technological framework and process design are subject to internal documentation and structured IP strategy.

Specific filings and protection mechanisms are disclosed under NDA.

9. Scope of This Document

This Executive Summary provides a high-level technical overview.

It does not include:

- Financial projections
- Capital structure
- Business model scenarios
- Partnership structures
- Commercial terms

These matters are discussed individually with prospective counterparties under confidentiality agreements.

10. Contact

For institutional inquiries:

[Official contact email]

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Access to extended technical documentation is available upon execution of an NDA.