

# Flotation Technologies — CAST Introduction Deck

Non-confidential overview · August 2026 · Not a technical specification or offer of terms

## SLIDE 1 · INTRODUCTION

### **An introduction to CAST water pretreatment**

#### INTRODUCTION

An introduction to CAST water pretreatment

A modular water pretreatment unit. Proven pretreatment that extends the life of every treatment train.

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For discussion purposes. Non-confidential overview; not a technical specification or an offer of terms.

## SLIDE 2 · WHY WE'RE HERE

### **CAST in one minute**

#### WHY WE'RE HERE

##### CAST in one minute

CAST removes the fine suspended solids, oils, and organics that make challenging source water and treated effluent hard to clarify and expensive to reuse. It installs ahead of your existing treatment, is delivered as a service, and is proven first in a paid on-site pilot.

1

##### Who we are

Early-stage water treatment company with active paid pilots in municipal and industrial settings.

2

##### What CAST is

Modular pretreatment unit, lease-plus-usage. Units only, field-deployable, scalable.

3

##### On the table

A scaled model and a working bench-scale unit you can run your own water through.

### SLIDE 3 • THE PROBLEM

## The water problems CAST is built for

### THE PROBLEM

The water problems CAST is built for

Common across municipal, industrial, energy, and federal water. Actual chemistry is confirmed in a pilot.

Constituents of concern that resist treatment

PFAS, fine suspended solids, oils, organics, and metals overload conventional processes and foul media and membranes.

Sources under growing stress

Drought, saline intrusion, and declining source quality force recovery from harder, more variable feeds.

Discharge limits are tightening

Rising limits on PFAS, TSS, oil & grease, and metals, plus reuse and freshwater-reduction expectations.

Treatment is expensive to run

Media replacement, membrane fouling, chemical dosing, and disposal are the costs pretreatment is built to cut.

#### SLIDE 4 • WHAT CAST IS

### **A pretreatment unit, delivered as a service**

#### WHAT CAST IS

A pretreatment unit, delivered as a service

CAST = Capillary Action Separation Technology

1

A pretreatment unit

Installs ahead of existing or planned treatment — clarifiers, flotation, RO, ion exchange, or membranes — and improves performance and economics of what sits behind it.

2

Units only, modular

Field-deployable skids. Scale by adding capacity for phased or distributed needs. Train matched to your water — not a fixed package.

3

Delivered as a service

Lease-plus-usage shifts spend from capital to operating budget. Rapid to deploy, easy to pilot.

## SLIDE 5 · HOW IT WORKS

# A treatment train matched to your water

### HOW IT WORKS

A treatment train matched to your water

Not a fixed package. Low energy in, fouling precursors out, targets captured, quality verified.

#### STEP 1

Capillary separation

Hydrophilic vessels coalesce and lift fine hydrophobic particles, oils, and organics at low energy — fouling precursors first.

#### STEP 2

Selective ion exchange

Anion resins for charged organics; cation resins for metals. Media selected for your chemistry.

#### STEP 3

Optional GAC polishing

Granular activated carbon trims residual organics to the target effluent quality.

#### STEP 4

Integrated sensors + software

Flow, pressure, breakthrough, and effluent quality monitored for adaptive, low-touch operation.

## Why CAST fits challenging water

### THE FIT

Why CAST fits challenging water

The challenge CAST response

Fine suspended solids and colloids that resist settling Coalesces and removes 90–99% of suspended solids; turbidity to ~1–3 NTU

Oils and grease Over 90% removal when present

Colloidal / hydrophobic organic load (COD) 30–60% reduction of the hydrophobic fraction

Membrane fouling and low RO recovery Removes fouling precursors; SDI<sub>15</sub> below 3; lifts downstream recovery

Sludge volume and chemical dosing Drier sludge; 10–20% less coagulant than conventional flotation

Expected ranges — site-specific and confirmed per matrix in a pilot. Dissolved salts pass through and are addressed downstream.

## SLIDE 7 • THE NUMBERS

### Expected performance envelope

#### THE NUMBERS

Expected performance envelope

90–99%

TSS removed

1–3 NTU

turbidity

>90%

oil & grease

30–60%

COD reduction

50–75%

brine volume cut\*

#### THE COMPOUNDING WIN

Cleaner feed lets high-recovery RO push overall water recovery from roughly 75–80% toward 90–95% — shrinking brine, disposal cost, and freshwater draw at the same time.

\*With downstream high-recovery or closed-circuit RO. All values expected, bench- and pilot-based; site-specific.

**SLIDE 8 · PROOF**

## **What we can already show**

PROOF

What we can already show

8×

Independent third-party bench testing

Adding CAST ahead of ion exchange extended run length by more than eight times before breakthrough and reduced column fouling. Longer runs cut media replacement — the single largest recurring cost.

Protected technology

U.S. non-provisional and PCT applications filed February 19, 2026.

Real pilots underway

Paid pilots across municipal and industrial settings; third-party testing completed.

## A low-risk way to adopt it

### THE MODEL

A low-risk way to adopt it

01

Water as a service

Lease-plus-usage, not a capital purchase. Spending moves to the operating budget.

02

Pilot first

We prove CAST on your actual water before any scale commitment is made.

03

Modular and scalable

Start with one unit; add capacity as results justify. Phased or distributed as needed.

You are not buying a plant. You are testing a unit on one stream — with the numbers to justify each next step.

## A suggested path from here

### NEXT STEPS

A suggested path from here

1

Share the water data

Two to three weeks of characterization: flow, TSS, turbidity, COD, oil & grease, and metals.

2

60-minute scoping call

Define pilot goals, tie-in points, and the sampling plan on your target stream.

3

One-page ROI

Built from your current disposal, discharge, and chemical costs.

4

Paid on-site pilot

Run CAST on the real stream; document removal, breakthrough, and recovery curves.

**SLIDE 11 · SEE IT RUN**

## **On the table today**

SEE IT RUN

On the table today

A scaled model

See the CAST architecture and flow path — vessel geometry, the treatment train, and how the skid fits together.

A working bench-scale unit

Run your toughest stream through it and watch the separation happen in real time.

The best next step is your water in our unit. Pick a stream and let's sample it.

**SLIDE 12 · CLOSE**

## **Let's put CAST on your water.**

CLOSE

Let's put CAST on your water.

Proven pretreatment that extends the life of every treatment train.

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Performance ranges are expected and site-specific, confirmed in pilot.

## **One pretreatment platform, four markets**

### MARKETS

One pretreatment platform, four markets

CAST installs ahead of existing treatment in each — the train is matched to the water.

Municipal & public water

PFAS removal, RO and membrane pretreatment, and recovery of solids-laden or declining source water.

Federal & defense

PFAS treatment at DoD and federal facilities subject to Superfund and drinking-water requirements.

Oil & gas produced water

Produced- and flowback-water treatment and reuse — cutting disposal and enabling recycling.

Industrial & manufacturing

Process and cooling water, RO-reject recovery, metals capture, discharge reduction. Landfill leachate is a further fit.

## The market is moving toward pretreatment

### WHY NOW

The market is moving toward pretreatment

Regulation and reuse economics are pulling demand into CAST's space. Figures are third-party market estimates.

PFAS regulation in force

EPA drinking-water limits for PFOA and PFOS; Superfund hazardous designation. Durable demand across public water, states, and DoD.

A growing PFAS-treatment market

Independent estimates near \$2–3B in 2025, growing at a high-single-digit or greater rate into the early 2030s.

Produced water at scale

\$8–9B market today, projected toward roughly \$13–14B by 2030 as reuse and recycling expand.

Consolidation favors platforms

Water-sector consolidation shows appetite for scaled treatment platforms — CAST is additive to systems those players already deploy.

## Units, acronyms & background

### REFERENCE

Units, acronyms & background

CAST

Capillary Action Separation Technology

TSS

Total Suspended Solids

NTU

Nephelometric Turbidity Unit

COD

Chemical Oxygen Demand

O&G

Oil & Grease

RO

Reverse Osmosis

IX

Ion Exchange

GAC

Granular Activated Carbon

SDI<sub>15</sub>

Silt Density Index (15-min)

PFAS

Per- and polyfluoroalkyl substances

TDS

Total Dissolved Solids

PCT

Patent Cooperation Treaty

Leave-behind reference — not for projection. Early-stage company; CAST in deployment readiness with paid pilots underway. Independent bench testing extended IX run length more than eightfold; U.S. non-provisional and PCT filed February 19, 2026.

