Evoqua/Roseville Overview
RAM/SWANA Conference
October 15, 2018

TRANSFORMING WATER. ENRICHING LIFE.
Leading provider of mission critical water treatment solutions

Transforming water. Enriching life.

### Core offerings

- **Systems**
- **Services**
- **Technologies**

### Key metrics

- **#1***
  - Market position in North America

- **38,000**
  - Blue chip customers

- **100+**
  - Years legacy of quality and innovation

- **$1.2 billion**
  - 2017 Revenues

- **$208 million**
  - 2017 Adjusted EBITDA

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*Source: Amane Advisors as of 2016

(1) For the definition of Adjusted EBITDA and a reconciliation to net income (loss), its most directly comparable financial measure presented in accordance with GAAP, see the Appendix hereto.
Water and Wastewater Treatment

**Evoqua’s Areas of Expertise**

- Advanced Biological Treatment
- Anaerobic Digestion
- Clarification
- Filtration
- Nutrient Removal
- Odor Control
- Plant Retrofit/Rehab/Upgrades
- Water Reuse Technologies

**Sources**
- Sea Water (Desal)
- Brackish Water
- Surface Water
- Groundwater

**Intake**
- MF/UF Membranes
- High Rate Clarification
- Disinfection (Chlorination, UV)
- Disinfection by-product treatments
- Filter Presses

**Filter**
- Aquatics (swimming pools, splash pads, water park), Aquariums, Municipal, Industrial
- RMF
- Multi Media Filtration
- Filters/System Controllers
- Self-Cleaning Filters
- Low Profile Strainers
- Low Pressure & Medium Pressure UV

**Disinfect**
- Intake Screens / Influent Clarification
- Membrane and Electro Deionization Systems
- Boiler Feedwater
- Mobile Equipment
- Laboratory Systems
- Spares, Consumables, and Services

**Purify**
- MUNICIPAL DRINKING WATER
- Drinking Water Treatment
- MEMBRANE AND RO/MSF SYSTEMS
- Deionization

**Reuse**
- MUNICIPAL WASTEWATER
- Wastewater-Treatment
- Membrane and Electro Deionization Systems
- Water Reuse Technologies

**Waste water**
- INTRODUCTORY AND PROCESS WATER
- Wastewater Treatment Plants
- Activated Carbon
- Wastewater Ion Exchange
- Heavy Metals Treatment
- Groundwater Remediation
- Ballast Water Treatment
- On-Site Sodium Hypochlorite Generating Systems

**Service and aftermarket support**
Evoqua Serving Markets Around the World…

Evoqua reaches the ENTIRE U.S. population within a 2-hour drive

Evoqua Headquarters - Pittsburgh, Pennsylvania

100+ U.S. offices, plants & factories

Evoqua’s Global Locations

Operates 170+ offices, plants, and factories throughout Australia, Canada, China, Germany, Italy, Singapore, the UK and US with 4,000+ employees worldwide.
Evoqua provides high-value added service and technology to an attractive customer base

We serve $10 billion of an $85 billion market\(^{(1)}\)...

…across a diverse, growing set of end markets

We hold top market positions across our key end markets

- Municipal: 30%
- Light industry: 35%
- Heavy industry: 27%
- Other: 8%
- Wastewater
- Drinking water
- Pharma / health science
- Microelectronics
- Light manufacturing
- Commercial aquatics
- Power generation
- Hydrocarbon / chemical processing

$600 billion global water market\(^{(1)}\)

$85 billion addressable market\(^{(1)}\)

$10 billion* served market

- Water treatment
- Technology & innovation
- Service & support
- North America

- Chemicals
- Water transportation
- Meters / pumps / valves
- Design & construction EPC

Addressed market sectors

Unaddressed markets sectors

*Source: Amane Advisors as of 2016
(1) Estimated as of 2016; (2) Other includes commercial aquatics, maritime and other / miscellaneous.
We serve our customers through three operating segments

<table>
<thead>
<tr>
<th>Segment</th>
<th>2017 Revenue</th>
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<th>2017 Revenue</th>
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<tr>
<td>Industrial</td>
<td>$643</td>
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<tr>
<td>Municipal</td>
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<td>$279</td>
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<tr>
<td>Products</td>
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<td>$325</td>
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### Services and Solutions

**Industrial**
- Full life cycle service and solutions for process and utility water
- Water as a service
- Full range of products for wastewater and drinking water applications
- Broad services for odor and corrosion control

**Municipal**
- Filtration / Disinfection
- Anode technology
- Electrodeionization
- Analyzers and controllers

### Representative Customers

- Johnson & Johnson
- P&G
- Coca-Cola
- Boeing
- Dow
- Duke Energy
- City of Dallas
- Charlotte
- MAERSK
- Eaton
- Jacobs
- Samsung
- 3M

(1) Trademarks shown are those of their respective owners.
Evoqua/Roseville
Where We Fit In Evoqua

Industrial Segment

Light Industry Division
Heavy Industry Division
Environmental Solutions Division
ProAct Solutions Division
Integrated Equipment Technologies

Roseville

Plant Operations
WWIX Customer Svc
WWIX Applications Engineering
WWIX Business Development Managers
EH&S

Plant Operations
Lab Operations
Waste Customer Service
Logistics
Administration
Sales Support
Proposals
Branch Inventory
Order Management
Treatability
Media Selection
System Design
Regional BDMs
WW Capital BDM
(see next slide)
Safety
Compliance
Regulatory Support
Evoqua Water Technologies/Roseville Chronology

- **Clean Water Act** (EPA, NPDES System, etc.)
- **CWA Amendments** (Pretreatment Regulations) & RCRA
- **POTW Categorical Pretreatment Plans** (Metal Treatment)
- **Metro Recovery Corporation**
- **Metro Recovery Services**

- 1972
- 1977
- 1983
- 1987
- 1988

- Business acquired by U.S. Filter Corporation 1992; operated as USFilter Recovery Services
- Business acquired by Vivendi/Veolia (France) in 1999; operated as Vivendi Water/Veolia Environmental
- Business acquired by Siemens (Germany) in 2004; operated as Siemens Water Technologies
- Business acquired by AEA Investors in 2014; renamed Evoqua Water Technologies
- Evoqua Water Technologies IPO 2017
Evoqua/Roseville - Facility

• Inorganic waste treatment business
  – No explosive, radioactive, or biological wastes
• RCRA Part B TSD Facility regulated by:
  – Minnesota Pollution Control Agency (RCRA permit; industrial storm water permit)
  – Ramsey County Department of Health (facility license; hazardous waste generator license)
  – Metropolitan Council for Environmental Services (industrial discharge permit)
  – US DOT (hazardous materials registration)
• Facility Profile
  – Established 1987 in response to Categorical Pretreatment Standards & RCRA
  – CERCLA approved; ISO 14001 – 2015 certified
  – Purpose built facility – engineered specifically for activities performed at site
  – ~ 75,000 ft² of plant/processing space/~ 8,000 ft² of office space
  – 40 employees; plant operates two shifts/day
  – Typical RCRA waste codes received:
    • F006, F007, F008, F009, F011, F012, F019
    • D001, D002, D004 – D011
    • P&U codes on “case by case” basis
Roseville Business Profile - Plant Operations

- Processing activities include:
  - Resin regeneration;
  - Neutralization;
  - Precipitation;
  - Ammonia stripping.
  - Chemical oxidation/reduction;

- MPCA issued RCRA Permit for Storage and Treatment of Hazardous Waste
  - 14 – Container Storage Areas ~ 1,700 (55 gal) equivalents ~ 94,000 gallons
  - 65 – Tanks for Storage and Treatment ~ 290,000 gallons
  - 140 – Total tanks, vaults, lift stations, etc.

- Production Metrics
  - 10 Million gallons of Waste Water Discharge
  - 6,700,000 Pounds of Waste Shipped Off-Site
    - 4,813,000 Pounds (72%) to Recovery
    - 2,127,000 Pounds generated by Evoqua (100%) to Recovery
    - 190 Off-Site Shipments
    - 120 Shipments of Treatment Residuals
Roseville Business Profile - Offerings

- **Products/Services**
  - **“Regional” bulk inorganic waste treatment business**
    - ~ 100 customers
    - Direct sale to generators/third party “waste program” providers
    - “Sphere of influence” limited by freight
  - **National wastewater ion exchange (WWIX) business**
    - Service based metals discharge compliance; includes associated/complementary wastewater capital equipment
    - ~ 650 customers nationwide (and Canada); ~ 1,000 installations
    - Direct end user sales through Light Industry/Heavy Industry/Environmental Solutions Division field sales teams (supported by regional WWIX Business Development Managers)
    - Local service provided by > 70 Segment service branches (also direct supply from Roseville)
    - Exhausted tanks cycle through Roseville facility for regeneration/media replacement; 10 day transfer sites in several west coast branches with consolidation in Vernon, CA
    - Metals treatment includes Ag, Al, As, Au, B, Cd, Cn, Co, Cr+3, Cr+6, Cu, Fe, Hg, Mg, Mn, Mo, Ni, Pb, Pd, Pt, Sn, V, Zn, etc.
  - **National branch WW capital business**
    - Neutralization, CPS systems, etc.

- **Key markets**
  - PWB/semiconductor/solar/other microelectronics
  - Electroplating/metal finishing
  - Aviation/aerospace
  - General manufacturing
Roseville – Business Overview
Regulatory Overview … Hazardous waste “cradle to grave” chain of custody

**Generator**
- Obtains EPA ID#; generates and characterizes waste
- Quantity generated (very small, small, and large quantity generators) dictates:
  - On-site accumulation quantity (w/out permit)
  - Accumulation time limits
  - Training, planning, record keeping and reporting
  - Pre-transport requirements and manifesting

**Transporter**
- Off-site transportation of hazardous waste from one site to another via highway, rail, water or air
- Subject to EPA and DOT requirements
  - Obtain EPA ID#
  - Comply with manifest system
  - Handle/address hazardous waste discharges
  - Obey US DOT hazardous materials regulations

**TSD**
- Facility specific permit required; includes:
  - Waste analysis plan (verification of incoming waste)
  - Training requirements
  - Hazard prevention
  - Preparedness, prevention and contingency planning
  - Manifest, recordkeeping and reporting
  - Inspection requirements
  - Security requirements
  - Closure/financial assurance

**Roseville**
- Has a RCRA Part B permit, is CERCLA approved, and employs an ISO certified Environmental Management System
- Assumes title to, and liability for, conforming wastes once received; recovers > 99% of metals received into the facility for treatment
- Assists generators with:
  - Waste characterization
  - Preparation of manifests/placarding
  - Freight/logistics activities (including hazardous carriers)
  - Annual/other reporting requirements
Roseville – Business Overview
Value Proposition … Simple, confident compliance

Evoqua offers:

- RCRA permitted facility and ISO certified Environmental Management System focused on metal recovery = **hazardous waste liability mitigation**
- Ability to supply complementary WW capital equipment = “One-Stop Shop” for optimized equipment/service solutions
- > 30 years of metals removal applications expertise (and > 1,500 installations) = working with the market leader with a proven record of success
- In-house analytical lab and application engineering = **quick treatment evaluation/system design and deployment**
- Simple and reliable (including scalable, unit exchange based systems) = avoid significant capital outlay, minimize space/maintenance/on-site chemicals, and easily adjust capacity
- For WWIX, inventory at/delivery from local branch locations = **quick response.**
Customers Using Water – Water “in” normally means water “out”

Discharge to the environment requires pre-treatment
- Discharge to river or other receiving water
- National Pollution Discharge Elimination System (NPDES) permit required
- Discharge limits for NPDES typically very tight - order(s) of magnitude less than that for discharge to POTW

Discharge to sewer requires pre-treatment
- Sewer authority (POTW) calls treatment before sewer discharge “pre-treatment”
- Permit to discharge to POTW dictates what can and cannot be discharged
- Limits typically for (minimally) pH, metals, cyanide

Unless water evaporates in the process, what goes in must come out!
How do Generators Comply with Metals Discharge Regulations?

**On-site Treatment Options:**
- Metals precipitation
- Chemical & advanced oxidation
- Electrowinning
- Ion exchange/adsorptive media

**Off-site Treatment Options:**
- Deep well injection
- Treatment and disposal
- Treatment and recovery

Evoqua Capital Equipment

Evoqua Services
Roseville – Business Overview
Metals-Removal Technology Treatment Ranges

<table>
<thead>
<tr>
<th>Metals</th>
<th>Conventional Treatment</th>
<th>Ion Exchange Resins</th>
<th>Selective Adsorbents</th>
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<tbody>
<tr>
<td>Chromium</td>
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<td></td>
</tr>
<tr>
<td>Cadmium and Lead</td>
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<td></td>
<td></td>
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<tr>
<td>Zinc</td>
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<td>Copper</td>
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<td></td>
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<tr>
<td>Mercury</td>
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Concentration Ranges:
- Chromium: 1,000 ppm - 1 ppm
- Cadmium and Lead: 1,000 ppm - 1 ppm
- Zinc: 1,000 ppm - 1 ppm
- Copper: 1,000 ppm - 1 ppm
- Mercury: 1,000 ppm - 1 ppm
Evoqua Technology Applications
Customer’s Typical Metal Finishing Process Unit

Evoqua RO, SDI, RO/SDI

Evoqua WWIX Branch Capital (or Roseville waste)

Evoqua WWIX Media
Wastewater Ion Exchange (WWIX)
Branch Wastewater Capital Treatment Offerings - Summary

Inorganic Contaminant Removal
Ag, As, Au, Cd, Cr, Cu, F, Hg, Mn, Mo, Ni, Pd, Pb, Pt, V, Zn, ClO$_4^-$, CN, PO$_4^{3-}$, TDS

Equipment
- pH Neutralization
- Metals precipitation
- Oxidation for cyanide destruction
- Solids dewatering (JWI J-Press) and filtration
- Typical applications for metals concentrations >100ppm
- Typical treated effluent levels in 0.5 - 1ppm range

Modular Systems Approach
- Standard products
Evoqua WWIX
Typical Application to Customer’s Processing Line

- Cleaner
- Rinse
- Acid Pickle
- Rinse
- Plate
- Rinse
- Seal
- Rinse

SDI for Make-up

Work Flow

Recovery/Reuse

Bleed/Discharge
Wastewater Ion Exchange (WWIX) Media Treatment Offerings - Summary

**Inorganic Contaminant Removal**
Ag, As, Au, Cd, Cr, Cu, F, Hg, Mn, Mo, Ni, Pd, Pb, Pt, V, Zn, ClO_4^-, CN, PO_4^-, TDS

**Media Tanks**
- Ion exchange resin and adsorptive media (selection tailored to contaminants)
- Portable (1.2 to 60 ft^3^) and fixed (350 to 700 ft^3^)
- Flowrates from 1 to 1000+ gpm
- Typical treatment range up to 100ppm
- Typical treated effluent levels in the 1 ppm - 20 ppb range

**Ancillary equipment**
- Aquasaver™ lift stations (15-60gpm, with and without pH adjust)
- Hoses, filters, etc.
Roseville – Business Overview
Sources, Streams, Metals & Outlets

Sources
- Contract metal finishing, electroplating and anodizing
- Printed circuit board manufacturing and populating
- Microelectronics/solar
  - Metal finishing and electroplating rinses
  - Anodizing rinses
  - Metal working cleaning and etching rinses
  - Parts washing
- General manufacturing
  (aerospace, automotive, medical device, glass, solar, etc.)
- Power, chemicals, mining, metals
- Storm Water, Groundwater

Streams
- Solids
- Liquids
- IX / Adsorbents

Metals
- Zinc
- Copper
- Cobalt
- Chrome
- Nickel
- Tin
- Silver

Outlets
- Zinc (40%)
  - 4.1 Million Pounds
  - HTMR w/ EAF Dust
  - Waelz Oxide & IRM
- Copper, Chrome, Cobalt & Nickel (57%)
  - 441,000 Pounds
  - Concentrate and blend metal units
- Nickel & Tin (100%)
  - 217,000 Pounds
  - Concentrates select metal concentrates
- Silver (0%)
  - ~9,000 Pounds
  - Precious Metals
  - Chemical, Incineration, Smelting, etc.