



Overview - Auvin Fruit Company is a very large fruit producer of apples and cherries located in Orondo, Washington. The company was formed in 1928 and now has more than 1500 acres supplying top quality fruit using their own innovative farming practices. The label of "Gee Whiz" is produced by Auvin and found on fruit nationally.

Challenges - Hard water mineral deposits would form on the fruit while going through the handling process (water wash) and also while the fruit was being water flumed from receiving stations to processing lines. Then they would need expensive chemicals (acids) to help remove the mineral deposits during the packing process. This was a time consuming and costly process without the most efficient results.

Solution - Nine large **SB-2000** industrial units were installed in conjunction with the overhead cooling systems.

Installed - January 2011

Outcome - After installation of **ScaleBlaster** the company was able to immediately stop using expensive acid chemicals to remove the limescale deposits from the fruit. This has saved the company more than \$200,000 a year in chemicals alone, not to mention the labor and maintenance involved. Fewer mineral deposits on the fruit were also noted.

Stone Land Farms

Stratford, California

AGRICULTURE



Overview - Stone Land Farms is a large diversified family farming company formed in 1948. They employ 260 people and specialize in cotton.

Challenges - Due to water restrictions, farmers are forced to use drip irrigation which scale up all the time with calcium deposits, requiring constant cleaning & replacement. Farmers are also looking for ways to yield their crops more efficiently because plants can't grow as fast with the restricted water usage.

Solution - One **SB-4000** was installed at the pump station on an 18" pipeline which supplies hundreds of acres with water.

Installed - February 4, 2013

Outcome - Phenomenal results. The scaling issues in thousands of drip dispensers immediately stopped. The big story is that the less surface tension of the water allows the plants to grow much faster due to deeper water saturation. The roots go deeper into the soil which increases crop production dramatically. The amount of savings from the increased production generated by using **ScaleBlaster** is substantial.

West Liberty Foods

Ellsworth & Liberty, Iowa

AGRICULTURE



Overview - The Eagle Ridge Farm and the Liberty Farm have been growing commercial turkeys for 25 years and are members of the West Liberty Foods Cooperative, the 8th largest USA turkey processing company. Their largest customer is Subway with 40,000+ stores in the USA.

Challenges - With a flock of 19,000 poult (baby turkeys), 1,700 nipple drinkers are part of the watering system. These drinkers include valve mechanisms and injection molded water cups which scale significantly after just six weeks of use. To clean the drinkers between flocks, each drinker had to be disconnected from the watering system and cleaned with muriatic acid & then reassembled. At six weeks, the birds are transferred to a grow out barn for 12 ½ weeks where they have a larger bell system to drink out of. Those needed nasty muriatic cleaning also.

Solution - An **AG-100** was installed on the main drinker water line to each of the farms.

Installed - April and May of 2014

Outcome - The **ScaleBlaster** performed as advertised, but really took the farm management by surprise "the drinker units look new!". The 1,700 drinker units no longer require disassembly for cleaning. Acids are no longer used in the cleaning cycle. The larger turkey drinking bells experienced the same results. **ScaleBlaster** significantly reduced cleaning times between flocks due to the elimination of limescale, allowing for more flocks to be produced yearly.



Overview - HOK (formally Heelmut, Obata + Kassabaum) is the largest architecture-engineering firm in the United States. The firm has more than 1,600 professional staff employees across a global network of 23 offices and is active in all major architectural specialties. They have designed buildings all over the globe and major stadiums in the USA. They are leaders in sustainable designing.

Challenges - As a major architecture design company with sustainable solutions in mind, HOK is always looking to be the leader in "green" build & design by using state-of-the-art products. Water softeners pollute our environment with brine discharge while wasting lots of water.

Solution - Various architects of HOK have spec'd numerous **ScaleBlaster** units on buildings over the years.

Installed - 2000-2010

Outcome - The initial installations of **ScaleBlaster** that were spec'd by HOK were on the University of California – Davis, as shown in the photos. All of the units have performed as advertised, given end users an eco-friendly, maintenance and salt-free alternative to hard water problems.

Monterey Wine Company

King City, California

BEVERAGE BREWRIES/WINERIES



MONTEREY WINE COMPANY



Overview - The Monterey Wine Company is a custom wine production facility located on the central coast of California and was founded in 2002. They have a state-of-the-art facility with an emphasis on service, innovation & integrity in their wine making & bottling process.

Challenges - The wine company needed a hard water and limescale preventive maintenance system on their heat exchanger for wine making process as well as the entire building. They also needed a preventive system for their large tankless water heater and filter systems.

Solution - One **SB-450** was installed on the entire building, an **SB-MAX** was installed on the heat exchanger equipment and another **SB-MAX** was installed before the tankless water heater/filter system.

Installed - March 26, 2014

Outcome - The **ScaleBlaster** system was installed as a preventive maintenance measure, and to date, no scaling issues are present.

Krusovice Beer

Krusovice, Czech Republic

BEVERAGE BREWRIES/WINERIES



Overview - Krusovice Beer was founded in 1517 and is one of the oldest and highly acclaimed breweries in the world. The company was acquired by Heineken in 2007 and their beers are widely available worldwide.

Challenges - The brewery had major scaling issues on their cooling towers and costly water softener expenses for their huge dishwashers to clean the recycled bottles.

Solution - Several old SB-100 **ScaleBlaster** units were installed on their entire building, the cooling towers and in front of the dishwashers. This was one of the first major commercial installations ever done with **ScaleBlaster** outside the United States.

Installed - January 1996

Outcome - Within days of installation of the **ScaleBlaster** units, the cooling towers at Krusovice Brewery were completely free of scale deposits, eliminating the constant chore of cleaning the system with acids and chemicals. A tremendous amount of money was saved on energy costs and downtime on the production of beer. On the dishwashers, less soap was used to clean the recycled bottles and has reduced calcium spotting on the bottles.



Overview - Schlafly Beer is Missouri's largest locally owned independent brewery and was incorporated in 1989. They brew more than 50 unique styles of fresh beer, half of which are exclusively available in their two brewery restaurants. Their beers are also distributed in 15 states and are even available at Busch Stadium, home of the St. Louis Cardinals.

Challenges - The water heater for domestic usage in the plant was constantly scaling up and not delivering enough hot water. Maintenance had to keep cleaning out the boiler, heating elements as well as the pipe lines on a regular basis.

Solution - One **SB-350** was installed before the water heater.

Installed - April 6, 2011

Outcome - Limescale formation stopped forming in the water heater, heating elements and the copper pipes, allowing Schlafly's technicians to address other maintenance issues in the rapidly growing brewery.

The Plaza at Harbour Island

Tampa, Florida

CONDOMINIUMS



Overview - The Plaza at Harbour Island is twenty-story luxury condo building located on exclusive Harbour Island in downtown Tampa, Florida. The striking architectural landmark offers breathtaking water and city views in every direction.

Challenges - **ScaleBlaster** was contacted due to the growing problems related to hard water buildup in the plumbing system and the prominent hard water spotting that the residents were experiencing.

Solution - A commercial model **SB-650** was installed on the four-inch main water supply line feeding the building.

Installed - February 2, 2012

Outcome - Within a period of four months, the residents realized the benefits of the **ScaleBlaster** system. The spotting was reduced to a minimal level, increasing the ease of cleaning and offering esthetic benefits of not having hard water residue throughout the twenty-story building. The integrity of the plumbing system is also being protected due to the prevention of limescale buildup in the piping.



Florescia

St. Petersburg, Florida

CONDOMINIUMS



Overview - The Florescia is luxurious a high-rise residential tower consisting of 50 homes in the heart of St. Petersburg's downtown on prestigious Beach Drive.

Challenges - The Florescia needed a water treatment system for their entire building because a water softener was not an option. They were experiencing various hard water issues.

Solution - One **SB-650** was installed on the 4" incoming water supply line for the entire high-rise building.

Installed - February 17, 2008

Outcome - The **ScaleBlaster** unit has performed as advertised, solving the resident's hard water problems while protecting the entire building's pipe system from scaling up. This will also give the homeowners ideal water pressure while their boiler system will work as efficiently as possible. The investment has paid for itself in savings in energy alone.





Overview - The Towers of Channelside are twin, 30 story luxury condominium located in downtown Tampa's premier Channelside district.

Challenges - The high-class condominium was experiencing hard water buildup in the plumbing system and shutting down their instrumentation probes that were used to monitor the check valves in their \$40,000 water pumps. Residents were complaining of hard water issues.

Solution - Four **SB-650** commercial units were installed on the main lines feeding their two towers. Water softeners would have been a much more costly investment with ongoing expenses like salt purchases and costly maintenance expenses, not to mention increased water & sewer expenses.

Installed - May 29, 2012

Outcome - Instrument problems immediately stopped because of scaling issues and residents of the twin towers noticed a difference in their water within four months. Their entire piping system will remain scale-free, thus avoiding costly expenses of replacing the entire piping system decades from now.

Lincoln Towers

New York City, New York

CONDOMINIUMS



Overview - Lincoln Towers is an apartment / condo / professional office complex on the Upper West Side of New York City in Manhattan. It consists of several building on a 20-acre campus. It houses so many people that some of the buildings require their own polling place. The Lincoln Center for the Performing Arts is a block and a half away.

Challenges - The 60-year-old buildings are experiencing major problems with the domestic water supply with poor water pressure. The higher the floor, the worse it got. This was due to the plumbing system clogging up with heavy limescale formation.

Solution - Eight commercial grade descalers of **SB-250s** and **SB-350s** were installed at various levels of one of the buildings.

Installed - March 1-3, 2012

Outcome - Within a month and a half, the Home Owners Association was getting positive news from residents that the water pressure in their apartments were increasing. Residents on the upper floors went from just a trickle of water pressure to full pressure. The option would have been to re-pipe the plumbing system, a job that would easily run into hundreds of thousands of dollars.

Touch of Class

Apollo Beach, Florida

DRY CLEANERS



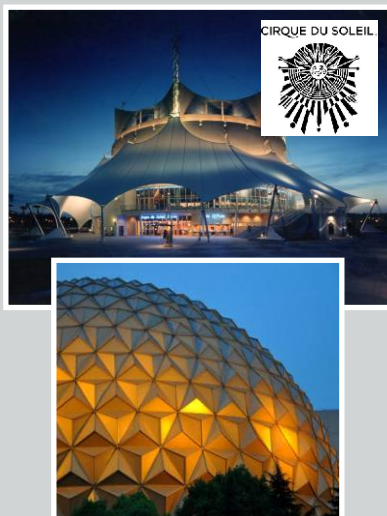
Overview - Touch of Class is a dry cleaner and laundry facility in Apollo Beach, Florida. The facility has all the laundry and dry-cleaning equipment on the premises.

Challenges - The dry cleaners needed a way to keep the boiler from scaling up and causing an explosion. They had been injecting chemicals and renting a water softener. These strategies helped keep the boiler clean and pass semi-annual state inspections for safety. After the owner caught the water softening company "short bagging" him on a salt delivery, he went looking for other options.

Solution - A commercial **ScaleBlaster** unit was installed on the main waterline entering the building.

Installed - April 2001

Outcome - A few months after installation the inspector came in. The boiler was cleaner than it had ever been while using chemicals and a water softener. The state inspector could not believe it! No chemicals were added. No water softener was in use. No more bags of salt were added. A totally maintenance-free system from **ScaleBlaster**. **ScaleBlaster's** payback period was a quick one with saving in water, salt and renting the equipment. In addition, the laundry whites are whiter, colors don't fade as much and collars come out cleaner.



Overview - Cirque du Soleil is a Quebec based company recognized all over the world for high-quality, artistic entertainment. Founded in 1984, the company now employs over 5,000 people including 1,300 artists. Each show is a syntheses of circus styles from around the world, with its own central theme and storyline. They perform in 271 cities on every continent in the world except Antarctica. More than 100 million spectators have seen a Cirque du Soleil show since its inception including 15 million people last year alone.

Challenges - Due to the amount of water many of these shows require and the complexity of the massive equipment the shows require and being an environmentally-friendly company, **ScaleBlaster** was tested in many applications.

Solution - **ScaleBlaster** was installed on every permanent structure owned by Cirque du Soleil around the world. The units vary in size, from small commercial to large industrial models.

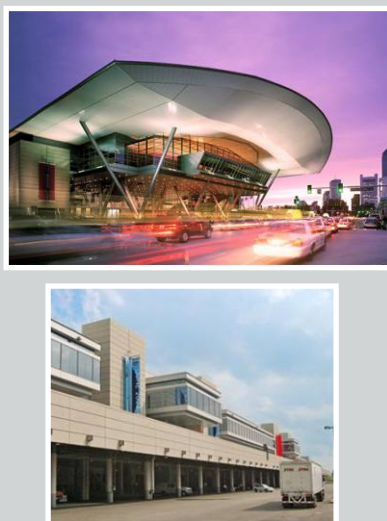
Installed - The units were installed over a period of time from 2003-2005.

Outcome - **ScaleBlaster** has delivered scale-free results on the multiple locations worldwide.

Boston Convention Center

Boston, Massachusetts

ENTERTAINMENT SPORTING FACILITIES



Overview - The Boston Convention & Exhibition Center is the largest exhibition center in the Northeast United States with 516,000 square feet of contiguous exhibition space. In 2009, the Massachusetts Convention Center Authority launched the "Top 5 Campaign" aiming to make Boston one the top five cities in North America for conventions.

Challenges - As an initial test of **ScaleBlaster**, the truckers bay was experiencing serious limescale issues in their sinks, toilets and showers. Regular cleaning and maintenance were required.

Solution - A commercial **ScaleBlaster** unit was installed on the main water line going to the truckers bay.

Installed - March 9, 2004

Outcome - Since the installation of **ScaleBlaster**, the scaling issues have completely gone away. Additional installations are coming to the cooling tower and more applications in the building.

Derby Lane

St. Petersburg, Florida

ENTERTAINMENT SPORTING FACILITIES



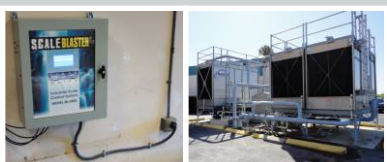
Overview - Derby Lane Greyhound Track is a racino located in St. Petersburg, Florida. It is the largest and oldest (since 1925) continuously operating greyhound track in the world. The huge, four level facility offers dining, the top racing dogs in the world, large poker rooms and simulcast pari-mutual wagering on hundreds of TVs from tracks around the country.

Challenges - The facility's huge HVAC system is a costly one, given the 24-hour operation in the hot Florida weather. With thousands of visitors daily, management was looking at ways to reduce expenses.

Solution - Several **ScaleBlaster** systems – three **SB-2800s**, one **SB-3600** and two **SB-350s** were installed on the cooling towers, chillers, condenser lines, chilled water line and their huge boilers.

Installed - October 16, 2010

Outcome - Derby Lane was able to increase the cycles of concentration which resulted in water savings and lowered chemical expenses.





Overview - The Amalie Arena is a 21,500 seat state-of-the-art arena that is used for ice hockey, basketball, arena football games, as well as concerts. It is home to the Tampa Bay Lightning of the National Hockey League and Tampa Bay Storm Arena Football League. The 2012 Republican National Convention was held there. It is the 4th busiest arena in the USA.

Challenges - The booster heating elements of the dishwashers in the kitchens were scaling up, causing a maintenance nightmare. Bacteria formation was a concern and the dishwashers needed to be working properly all the time. The entire building has corroded pipes and large industrial water softeners that were breaking down and wanted to get rid of.

Solution - As an initial test of **ScaleBlaster**, one **SB-MAX** was installed on the feed line going to the dishwasher.

Installed - July 18, 2014

Outcome - Since installation, the heating elements are completely descaled. Additional **ScaleBlaster** units are now being installed on the players sauna room, the domestic water lines for the bathrooms and kitchens, the cooling tower-chiller system on the entire building, and the cooling tower for the ice rink chiller system.



Amway Center

Orlando, Florida

ENTERTAINMENT SPORTING FACILITIES



Overview - The Amway Center is a 20,000 seat sports and entertainment venue in Orlando, Florida. They are the home of the Orlando Magic NBA team in addition to major concert acts and shows like Cirque du Soleil.

Challenges - The player's sauna room's heating elements were scaling up dramatically from the steam being generated. The problem got so bad, the sauna had to be shut down often to be able to undergo cleaning out or replacing the heating elements from the limescale formation.

Solution - A commercial **ScaleBlaster** model was installed on the water line going to the sauna.

Installed - September 23, 2013

Outcome - Immediately after installing the **ScaleBlaster** unit, the scaling issues went away. The maintenance department no longer has to shut down the sauna to clean out the heating elements or replace them. The NBA stars are now able to enjoy their sauna without any maintenance issues closing down the first-class recreation facility.



The Villages

Central Florida

HEALTH CARE COMMUNITY



Overview - The Villages is an active retirement community located in central Florida that was conceived more than 50 years ago. Today, it has a population of about 52,000 and Forbes magazine ranked The Villages as the number one fastest-growing small city in the USA.

Challenges - Florida's hard water presents a host of problems for health care facilities as water softeners are not an option for use on domestic water usage. Water softeners discharge brine into the water system polluting our environment. They also waste a lot of water when regenerating and are expensive to maintain. Water softeners break down all the time and require the addition of several bags of salt on a daily or weekly basis.

Solution - Commercial **ScaleBlaster** systems were added on the main water supply line to prevent limescale issues throughout the building and for domestic water use. Water softeners are not ideal for those on salt-restricted diets, in which most health care facilities are. **ScaleBlaster** units were also added on the laundry and dietary water lines.

Installed - Ongoing installations of **ScaleBlaster** have taken place since 1999 to today.

Outcome - Dozens of facilities with hundreds of units installed in The Villages are enjoying the **ScaleBlaster** benefits of a no maintenance, no chemicals, and no salt alternative to hard water issues.





Overview - Palm Garden Healthcare is a very large assisted living facility for senior citizens in the USA. They are committed to leading in the skilled nursing and rehabilitation arena.

Challenges - Most of the Palm Garden facilities were using water softeners on their hot water tanks, boilers, washers, dishwasher & ice machines. One of the main facility's water softeners "froze" up in the middle of the night while regenerating and flooded the dietary & laundry zones with pure salt water. The damage to equipment was extensive. It was then, that they found out the softener company's only responsibility was for the damage to the softener itself.

Solution - The answer was to install commercial **ScaleBlaster** units in the whole building to control all the water, without the softener & the dangers connected to them. Units were placed on the incoming waterline to the building, and in front of the dietary and laundry areas.

Installed - The 25 Palm Garden facilities had units installed from the years 2000 - 2009

Outcome - Since the initial installation, there was a 92% reduction in overnight leaks and no limescale buildup in the facility. Twenty-five Palm Garden's in Florida, Georgia and Pennsylvania are now equipped with **ScaleBlaster**. The \$350 average per month, per facility, in salt & wasted water is no longer an expense, as well as the costly water softening equipment itself.

Horizon Bay Living Facility

Lutz, Florida

HEALTH CARE FACILITIES



Overview - Horizon Bay Living Facility is one of the Brookdale Senior Living communities and is the largest owner & operator of senior living communities in the United States. The Lutz location is a first-class facility that covers 5 acres and is surrounded by wildlife, trees and ponds.

Challenges - The facility was renting a commercial salt-based water softener for the dietary & laundry zones to reduce their monthly maintenance chemical costs. However, they were having plumbing leaks and were under the impression the softener would correct those leaks.

Solution - When explained that softened water becomes aggressive and actually increases leaks, they decided to give **ScaleBlaster** a try. One **SB-650** was installed on the entire building as well as one **SB-350** on the laundry and another unit in the dietary area.

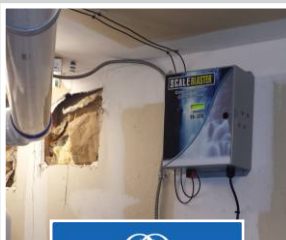
Installed - Feb 10, 2011

Outcome - A short time after the **ScaleBlaster** units were installed, the water began to increase in temperature in less time. This was due to the removal of scale in the hot water tanks, allowing the water to heat faster. There was also a reduction in severity of the leaks that eventually stopped. **ScaleBlaster** is basically giving them the same results as a water softener would without the \$550 monthly rental fees and the constant purchase of salt.

Candlewood Suites

Irvine, CA & Austin, TX

HOTELS/RESORTS



Overview - Candlewood Suites are a brand name of the InterContinental Hotels Group. There are more than 300 Candlewood Suites locations worldwide. The IHG owns over 4,600 hotels (including Holiday Inn's) with 670,000 rooms worldwide.

Challenges - Hard water was presenting serious problems in both hotels with the boilers scaling up, and limescale formation in the pipes, fixtures and more throughout the hotel. All the rooms in the hotels were affected. The Irvine location had a water softener where the bottom fell off and flooded out the building. The Austin location never had a softener, but were experiencing serious issues and needed a solution.

Solution - The Irvine location had three **SB-350s** and one **SB-450** installed, while the Austin location had one **SB-650** and two **SB-350s** installed.

Installed - Austin, TX was installed June 12, 2013. Irvine, CA was installed March 20, 2014

Outcome - Within the three-month trial period, the limescale issues were a thing of the past- in both locations. No more clogged pipes, scaled up plumbing fixtures and/or inefficient boilers breaking down. The water softener will never be required again, saving them additional ongoing expenses such as maintenance, salt and water usage.



Overview - The Sheraton is an upscale 269-room resort with more than 30,000 square feet of conference space. It was formally a Crowne Plaza Hotel before new management came in.

Challenges - The buildings plumbing system were so clogged up with limescale that there was no hot water reaching the upper floors, unless they ran water overnight wasting a ton of water. Boilers were set to 130° just to obtain 100°. New ownership was looking at replacing the entire hotels plumbing system. Their boilers were scaling up and the laundry room had lint issues.

Solution - Four **SB-450s**, three **SB-350s** and one **SB-200LC** were installed on the main water line, before and after the boilers, and on locations half way up the building. Additional units were installed in the laundry room and on the steamer in the kitchen.

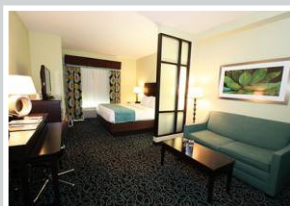
Installed - December 6, 2011

Outcome - Within a few weeks, the hot water returned to the top floors without having to run water overnight. The water was getting so hot, they were allowed to turn the boilers back down to normal settings! Water pressure improved while the laundry department reported whiter and softer towels and vastly diminished lint buildup in the room. **ScaleBlaster** had cleaned out the entire buildings limescale formation allowing them to avoid the costly re-piping of their entire plumbing system – a cost perhaps of a million dollars or more. Additional huge savings in water usage and energy were realized.

Comfort Suites

Brandon, Florida

HOTELS/RESORTS



Overview - The Comfort Suites of Brandon is a deluxe, all-suite hotel and is part of the Choice Hotels International chain.

Challenges - The hotel had a costly water softener that was constantly malfunctioning and breaking down. It even ruptured at one point - in the power room and flooded the boiler & hot water system with salt water, which effectively closed them down. Thousands of dollars were spent replacing very expensive equipment as a result of the softener. The hotel also experienced limescale buildup in the shower heads and aerators in addition.

Solution - Several other hotels in the area already had installed **ScaleBlaster**, so the decision was made to remove the softener before it could do any more damage. Commercial **ScaleBlaster's** were installed on the incoming waterline of the entire building and on an intake waterline to the laundry room and dietary.

Installed - July of 2004

Outcome - Not only has the sodium corrosion in the boiler/hot water equipment stopped, the hotel has experienced a major reduction in scale buildup in the shower heads and aerators. The system also helped to clear the salt out of the lines along the boiler & hot water system. Without any maintenance and having to add salt, the extra room originally needed for the softener and its brine tank has given them extra storage for supplies.

Extended Stay America

Various locations nationwide

HOTELS/RESORTS



Overview - Extended Stay America operates 684 hotels across the USA and Canada with more than 69,000 rooms. They offer the largest number of extended stay hotels in the United States.

Challenges - Various hotels in the chain, which are owned and operated by the company were having hard water problems. Limescale deposits, clogged aerators, poor water pressure were among some the experiences the hotels were having.

Solution - One **SB-450** was installed in the Phoenix location on the main water line. Corpus Christi, Texas had one **SB-250** installed; and the Orlando, Florida location had one **SB-350** installed.

Installed - June 2013

Outcome - The scaling issues have gone away as the **ScaleBlaster** units are a great "preventive maintenance in a box" product to prevent further issues of limescale formation in the building's pipes while preventing scale formation in shower heads, toilets and other fixtures.



Overview - The W Hotels & Resorts are a world-class, luxury hotel chain owned by Starwood Hotels & Resorts. There are more than 50 "W" hotels in 24 countries and continue to expand internationally. From the moment of arrival, guests are invited into surprising, sensory environments where amplified entertainment, vibrant lounges, modern guestrooms and innovative cocktails and cuisines create more than just a hotel experience, but a luxury lifestyle destination.

Challenges - The pre-boilers for the dishwashers were scaling up continuously as well as the dishwashers themselves.

Solution - As an initial test for **ScaleBlaster**, two **SB-MAX's** were installed on the water lines before the pre-boilers.

Installed - April 22, 2014

Outcome - The scaling issues on the pre-boilers and dishwashers immediately stopped. The hotel is planning to add more **ScaleBlaster** units on the hotel in the near future. Adding **ScaleBlaster** allowed the property to discontinue the use of their water softener system.

Beit EL Wadi Hotel

Wadi El Natroun, Egypt

HOTELS/RESORTS



Overview - The Beit EL Wadi Hotel is a first-class, 63-room hotel in Wadi El Natroun, Egypt.

Challenges - The hotel was suffering from high levels of water hardness and limescale buildup in its plumbing system. They were using high quantities of detergents and facing mechanical problems with laundry machines. Bed sheets and towels had to be replaced frequently and guests were complaining from high level of scale deposits on bathroom faucets, toilets and blocked shower heads. Solar water heaters, installed on the roof, were getting totally destroyed from the very hard water – another costly expense for the hotel.

Solution - One **SB-450** was installed on the main cold water inlet to the hotel and one **SB-350** was installed on the cold water supply to the solar water heaters.

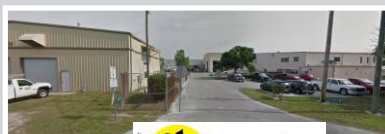
Installed - February 15, 2014

Outcome - After just two months of installation, management of the hotel was very impressed with the results. Detergent use was cut in half from two cups per wash to one cup resulting in savings of EGP \$875.00 a month. Use of other chemicals and additives remarkably decreased. The ironing machines no longer had blocked steamed outlets. Bed sheets and towels were noticeably softer. They were able to disconnect the water softener and they expect to save substantial money in operating costs.

Clearwater Fleet Management

Clearwater, Florida

ICE MACHINES



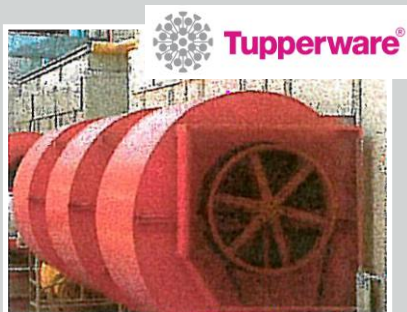
Overview - The Fleet Maintenance Division is a part of the city government of Clearwater, Florida. It oversees a staff of more than 40 employees and is responsible for more than 1,400 equipment units.

Challenges - The facility has three large commercial ice machines that were constantly scaling up the trays and flow nozzles, thus preventing the equipment from producing ice. The equipment was constantly being shut down to manually clean with chemicals. The ice machines were a test for **ScaleBlaster** with the potential for installation on other applications with the City of Clearwater.

Solution - Three **ScaleBlaster ICE-50s** were installed on the waterlines going to the ice machines.

Installed - August 19, 2014

Outcome - The scaling issues of the ice machines stopped immediately without the need to clean out the trays and nozzles of the calcium buildup. Additional installations with the city have included the city's fire department (see story on page 15).



Overview - Tupperware, founded in 1948, manufactures home product lines that include preparation, storage and containment for the home & kitchen. They have more than 13,500 employees, 1.9 million direct salespeople on contract in over 100 countries. They have 13 manufacturing facilities around the world including Mexico City.

Challenges - Tupperware uses a lot of water to cool their molds, run machinery and to operate their open-loop cooling tower. Tupperware's busy plant in Mexico City was using chemicals to combat the limescale issues without much success. Scaling was still an issue in the cooling tower, chiller and pipes.

Solution - Commercial **ScaleBlaster** systems were installed on the cooling process line and one on the incoming main water supply line.

Installed - September 1998

Outcome - Within 45 days, Tupperware started noticing the limescale issues decrease and a lot of scale started to fall from the piping system. The same effect happened in the cooling systems from the molds and the water loop from the injection machines. Tupperware was pleased to be able to eliminate some of their chemicals and acids that were corroding their molds. The system paid for itself in no time at all with savings in the chemicals, maintenance, downtime and by extending the life expectancy of the capital equipment.

Corning Asahi

State Collage , Pennsylvania

MANUFACTURING PLANTS



Overview - The Corning Asahi Plant in State College, Pennsylvania was one of the largest producers of television screens in the world. Corning and Asahi are major manufacturers of glass with more than \$20 billion in revenue. They worked through a partnership at the huge State College location until it was unfortunately forced to close in 2003 due to stiff overseas competition.

Challenges - Two huge 500,000 gallon water storage fire tanks were heated and recirculated during the winter to prevent freezing. The heating coils in the boilers would scale up terribly, causing extreme heating efficiencies. Expensive and time-consuming acid washes were required regularly.

Solution - Large commercial **ScaleBlaster** models were installed on the boiler line to solve the scale problems.

Installed - 1997

Outcome - The facilities' operation staff were amazed when they pulled the coils out for the first time (see photo). They were virtually scale-free and what residue there was rinsed off easily. Savings on chemicals and maintenance were considerable.

Pall Corporation

New Port Richey, Florida

MANUFACTURING PLANTS



Overview - Pall Corporation is the world's largest manufacturer of filtration, separation, purification & aerospace products. They employ 10,900 people with yearly revenue of 2.74 billion dollars. The company has plants and offices in 41 locations around the world. The New Port Richey, Florida branch handles the aerospace division.

Challenges - Hard water was causing major issues with limescale formation in the process and cooling systems. Due to the nature of this being an engineering company and manufacturer of aerospace equipment for the military, the company asked that details remain confidential.

Solution - One **SB-650** was installed on the main waterline going to the building and individual commercial **ScaleBlaster's** were installed on the cooling system.

Installed - The original installation for the building was in March of 2000, and additional installs were in February 2009.

Outcome - The scaling issues from hard water were solved without the need of a water softener. Pall Corporation has been named the top green company in the USA by Newsweek.



Overview - Bayer is a German chemical & pharmaceutical company that was founded in 1863. With revenue of about 40 billion Euro dollars and over 110,000 employees, they are the worlds leading producers of many products. The Kansas City site (Bayer Crop Science) covers more than 240 acres and produces numerous top-selling seed treatments, herbicides, fungicides and insecticides.

Challenges - Hard water was causing issues on their huge cooling tower and chiller system. Expensive algaecides and descaling chemicals were needed to treat the massive cooling system.

Solution - A large industrial **SB-2000** unit was installed.

Installed - June 6, 2011

Outcome - At the request of Bayer, our dealer/rep firm, details of the success story are kept confidential. The equipment is working as advertised and various chemicals have been reduced or eliminated. Savings on water usage have been substantial on the cooling towers.



Overview - Dow Chemical Company is an American multinational chemical corporation that was founded in 1897. They manufacture plastics, chemicals and agricultural products. With a presence in 160 countries, they employ about 54,000 people worldwide. They are the second-largest chemical manufacturer in the world by revenue with sales of more than 57 billion dollars.

Challenges - At the request of the company, information on the applications that **ScaleBlaster's** are installed on is strictly confidential.

Solution - Various size industrial units from **SB-2000**, **SB-2800** and **SB-4000** have been installed on various applications for Dow Chemical worldwide.

Installed - Various installations have been installed worldwide since December 2007

Outcome - Dow Chemical continues to spec and order large industrial **ScaleBlaster** models as the units perform as advertised.



Overview - The Ghana Textile Printing Company is a large textile manufacturing company in Ghana, Africa. They employ more than 650 people and produce various types of textiles.

Challenges - Looking for ways to reduce chemical expenses, water usage and save on energy cost, the company went looking for options to the huge water softeners they had been using to treat the water. They were also dosing sodium phosphate to prevent scale formation and performed regular acid washes. Industrial water softeners are costly, use lots of water, require huge amounts of salt and are prone to breaking down often.

Solution - Large commercial **ScaleBlaster** units were installed on the boiler feed lines.

Installed - 1999

Outcome - With **ScaleBlaster** installed instead of using the huge water softeners and descaling chemicals and acids, the company was able to cut fuel costs 5.13% which resulted in savings of \$60,666 the first year (USA currency in 1999). In addition, the company saved about \$15,000 USD (1999 dollars) in scale prevention chemicals that year. There were additional savings in water, electrical and maintenance and on downtime to clean out the boilers.





Overview - Cellynne Corporation is a fully integrated paper manufacturer of quality tissue and towel products. They own several plants worldwide. They employ more than 300 people and produce more than 70,000 tons of tissue and towels. The Haines City location covers 48 acres with a 180,000 square foot building.

Challenges - Paper manufacturing requires lots of water that gets hot and causes massive scaling issues. This included the vacuum lines that service the processing equipment. The scaling issues caused periodic plant shutdowns and time-consuming labor to clean everything with descaling chemicals. The downtime and loss of production would cost the company a tremendous amount of money that we can't disclose.

Solution - Four **SB-350s** were installed on the vacuum line.

Installed - June 9, 2009

Outcome - Since installation, the scale, the plant shutdowns and lost production times are no longer an issue. Savings from using **ScaleBlaster** after all these years is astronomical.

Tinker Air Force Base

Midwest City, Oklahoma

MILITARY



Overview - Tinker is a major U.S. Air Force base with tenant U.S. Navy and other Department of Defense missions near Oklahoma City.

Challenges - Located in one of the hardest water areas in the USA, treating hard water required expensive water softeners. They are expensive to purchase and operate, waste tons of water and are not environmentally-friendly. With a green initiative, they were looking to replace their traditional water softener methods with an alternative.

Solution - Dozens of commercial **ScaleBlaster** units from **SB-250s** to **SB-450s** were installed on their dormitories and in the cafeteria.

Installed - 2010

Outcome - Upon completion of the 90-day trial, Tinker AFB made the decision that **ScaleBlaster** had proven to be effective in combating their hard water issues. Several more commercial units were installed throughout the base. The **ScaleBlaster** units have effectively eliminated the need of water softeners, saving them on salt usage, conserving water and elimination of the backwash process that pollutes our environment. As noted in the photo, they even use one of their water softening tanks as a storage for their brooms and shovels!!

Aberdeen Proving Ground

Aberdeen, Maryland

MILITARY



Overview - Aberdeen Proving Ground is the U.S. Army's oldest active proving ground established in 1917. They cover more than 72,500 acres and nearly 300 miles of road. There are over 2,000 buildings with more than 17 million square feet of building space, and 21,000 employees.

Challenges - The massive-sized, two story boilers that were used to heat the buildings were clogging up with limescale desposits. At the end of the heating season, the boilers had to be broken down and cleaned out with acids, hard manual labor and chiseling. The cooling towers and chillers were experiencing the same scaling issues.

Solution - The initial install as a "test" of **ScaleBlaster** was on a boiler that handled 17 buildings. One **SB-1200** and other commercial models were installed on the boiler lines. Additional installations have proceeded with multiple industrial models of the **SB-3600** installed.

Installed - November 4, 2010. Cooling towers and chillers June 17, 2014, with more scheduled.

Outcome - When the first boiler was opened up after the initial heating season, they were virtually scale-free with only "dust" of scale settling in the boiler. The maintenance crew and management could not believe it. One of the largest boilers in the world would no longer need the massive cleaning and chiseling. Additional units have been installed on huge cooling towers and chillers with similar results. More installations are coming as budgeting allows.



Overview - The City of Clearwater is located in the west coast of Florida, in the Tampa Bay area. The city is where companies like **ScaleBlaster**, Home Shopping Channel, Hooters, PODS started. The fire department serves more than 110,000 residents. The Guinness Book of World Records says Clearwater holds the record for most consecutive days of sunshine in a single year with 361 days.

Challenges - The City of Clearwater (Florida) Fire Station was experiencing severe limescale buildup on the showerheads. The city had to bring a cleaning crew to come in often to take apart the shower heads and then clean them out.

Solution - A large commercial unit – the **SB-350** – was installed on the incoming waterline going to the fire station.

Installed - August 20, 2014

Outcome - The showerheads are completely scale-free. The city maintenance director is now planning on installing **ScaleBlaster** on multiple projects throughout the city.

Phoenix Postal Distribution Center Phoenix, Arizona

MUNICIPALITIES



Overview - The Phoenix Postal Distribution Center is a massive multimillion square foot facility that handles the mail for the entire state of Arizona. The mail is then distributed to hundreds of post offices throughout the state of Arizona – the 6th largest state in the USA and 15th most populated.

Challenges - There are 50 evaporative coolers (or swamp coolers) located on the roof to cool the loading dock areas of this huge facility. Extreme summer heat in the desert (especially for workers on the loading docks) can be as brutal as you might expect. The cooler pads would scale up rapidly, requiring costly and time-consuming cleaning & replacement of the pads.

Solution - An **SB-MAX** was installed on three of the 50 evaporative coolers.

Installed - June 5, 2014

Outcome - Within weeks, management “was impressed with the way the deposits noticeably washed away.” Months later, the project was a total success. There was no more limescale buildup on the cooler pads- resulting in savings in cleaning them and replacing them all the time. As budgeting allows, the other 47 swamp coolers will have **ScaleBlaster** installed as well as their massive cooling towers for the rest of the building.

Washington DC Metro Transit Authority

Washington, D.C.

MUNICIPALITIES



Overview - The Washington (DC) Metropolitan Area Transit Authority is a jurisdictional government agency that operates transit service in the Washington, D.C. Metropolitan Area. Today, Metrorail serves the nation's capital with 91 stations and has 117 miles of track.

Challenges - The Metro's 17 large cooling towers were scaling up and required a lot of chemicals and maintenance to clean them.

Solution - Large commercial **ScaleBlaster** units were installed on all 17 cooling towers over a short period of time

Installed - 1997

Outcome - The **ScaleBlaster** units solved the scaling issues as advertised, eliminating the need for expensive chemicals and reducing maintenance dramatically.



Overview - The Mercury Insurance Group is a large auto and property insurance company with more than \$3 billion in revenue and 5,100 employees. One of their main offices is a large 8-story building located in Clearwater, Florida.

Challenges - The building had significant scaling issues that were reducing the entire buildings plumbing related assets. They also were looking at a way to extend the life of their water pressure tanks to maintain constant flow throughout the building's floors. Calcium stains were also a nuisance on the stainless steel water fountain tops, valves and sink fixtures. They did not want to use a water softener.

Solution - One **SB-300** was installed on the hot water supply line and one **SB-600** on the main waterline.

Installed - June, 2006

Outcome - The visible limescale formation went away almost immediately, while the buildings expensive water pressure pumps and plumbing system have experienced no issues at all for nearly a decade now. The employees also reported better tasting water in their fountains, which lead to the removal of them buying bottled water.



Las Vegas Cogeneration Plant Las Vegas, Nevada POWER GENERATION



Overview - This Las Vegas Cogeneration Plant was a 238-megawatt power plant that uses the warm water it produced to heat a massive 12-acre greenhouse that produced 40,000 lbs. of tomatoes a day.

Challenges - Due to the nature of heating water in an extremely hard water area, major scaling in the heating pipes were taking place. The expense of using chemicals to remove the limescale, not to mention downtime and labor were a costly adventure. Producing alternative green energy is costly as it is, and this only added to the monumental expenses to produce heat.

Solution - The very first **ScaleBlaster** industrial model – a **SB-4000** was installed on the pipeline. The pipe was a twenty (20) inch steel pipe – the first time a **ScaleBlaster** was used on magnetic pipe of that size.

Installed - May, 2003

Outcome - **ScaleBlaster** was a total success. This was one of **ScaleBlaster's** greatest success stories ever. The scaling issues dramatically stopped forming and were no longer a serious and costly issue. Unfortunately, politics caused the state to shut down this cogeneration plant a few years ago. **ScaleBlaster's** savings were not enough to justify the costly adventure of using this type of green technology in power generation.



Shizuishan Power Plant

Yinchuan, China

POWER GENERATION



Overview - The Shizuishan Power Plant in China is a massive coal burning power plant that has a capacity to produce 1,980 megawatts of power. A megawatt alone is 1 million watts.

Challenges - Steam is generated when water is heated by coal and it makes nasty smoke & pollution. They would spray water down long chimneys to clean smoke and remove matter. The water would collect up and form like mud. A pipeline, several miles long would scale up with this mud like substance – requiring the breaking into the huge 32" steel pipe and manually chiseling away at the scale so the flow rate would not get hindered.

Solution - A total of 15 - **SB-4000** units were installed inside two buildings specially constructed to hold the **ScaleBlaster** units near the pipeline.

Installed - The units were installed on September 22, 2005, January 5, 2006 and April 25, 2009.

Outcome - Without the doubt, this is the biggest success story of all time for **ScaleBlaster** - as far as performance and savings go – given the nature of the operation. The savings in labor, downtime and materials on the pipeline which grows in length yearly is astronomical. The scale formation has stopped forming dramatically since the units were installed.

Hundreds of additional Chinese Power Plants POWER GENERATION



Overview - ScaleBlaster is a “household” name when it comes to power plants in China. China is the world's most populous country with more than 1.35 billion people. Hundreds of large industrial units have been installed. Some of the plants include the Fuxin Power Plant in Shenyang City and the Liaoning Power Plant in Jilin Province. Other installs include Jilin Power Plant, Quinghemen Power Plant, Yuanbaoshan Power Plant and Bang Rong Power.

Challenges - The various power plants suffered from severe limescale deposits in the pipe lines that are used to heat houses. The downtime, labor and chemicals used to treat the scale problems were astronomical. In addition to the pipe lines scaling up, the capital equipment that came in contact with water in the power plants were scaling up also.

Solution - Depending on the size of the pipe, hundreds of units **SB-1200s**, **SB-1800s**, **SB-2000s**, **SB-2800s**, **SB-3600s** and **SB-4000s** have been installed.

Installed - Since December 16, 2004 up to today, hundreds of units have been installed at various locations.

Outcome - **ScaleBlaster** is solving scaling issues in China power plants to the point that the product is a necessity in the industry - with the millions of dollars it saves them.



Hundreds of Mexican Geothermal Steam Wells POWER GENERATION



Overview - In Mexico, there are many “hot spots” or thermal pockets inside the earth where they drill deep into the ground. Heat from a fuel source (in geothermal's case, the earth's core) is used to heat water or another working fluid. The working fluid is then used to turn a turbine of a generator, thereby producing electricity.

Challenges - As steam comes out a 6” or larger pipes, the orifices were getting restricted in the pipes by calcifying with calcium and struvite. The expense of breaking down the system to clean the rock-hard substances is astronomical. The downtime was more troublesome as the geothermal steam wells are constantly moving to new locations. This cleaning usually had to be done often and replacement of capital equipment was frequent also. Scale included three types of silica and would grow one inch every 15 days.

Solution - Various **SB-600s**, **SB-650s**, **SB-1400s** and **SB-2000s** have been installed.

Installed - 2001 to current.

Outcome - The scaling issues have been solved, saving the operator's millions of dollars.



SuperMax ADX Penitentiary

Florence, Colorado

PRISONS



Overview - The “Supermax” or United States Penitentiary, Administrative Maximum Facility (ADX) is a federal supermax prison located in Florence, Colorado. It houses the most dangerous inmates in the USA who are in need of the tightest control possible. Many of their inmates are very notorious high-profile criminals that present very high security risks. Inmates include Ted Kaczynski, Terry Nichols, Eric Rudolph, Zacarias Moussaoui, Ramzi Yousef and Tim McVeigh who was housed there till he was moved to federal death row and executed.

Challenges - The plumbing system in the entire penitentiary was experiencing limescale issues with their showerheads, toilets, sinks, and in the piping's elbows and joints. Every quarter, maintenance had to shut down everything to remove the limescale buildup. The job was costly and time-consuming.

Solution - Three models were installed – the **SB-350**, **SB-450** and the **SB-MAX** – on the boiler feed line, the cold water line, and the hot water recirculating loop.

Installed - August 10, 2013

Outcome - Since installation, the **ScaleBlaster** system has kept the entire penitentiary free from any limescale issues without any maintenance, salt or chemicals.



No cameras are allowed into Supermax for obvious security reasons, so no photos of the installations are available.



For security reasons, no cameras were allowed inside the prison.

Overview - The Lowell Correctional Institution is located near Ocala, Florida and was the first prison for women in the state

Challenges - The building, which houses more than 1,400 inmates, was experiencing limescale buildup in the hot water lines, the water heaters and the dishwasher's heating elements.

Solution - Two **SB-250s** were installed on the hot water lines, and two **SB-175s** on the dishwashers

Installed - October 18, 2011

Outcome - The scaling issues are no longer a problem. The prison now has a maintenance-free, chemical-free solution to the limescale issues on the dishwashers and water heaters.

Popeye's Louisiana Kitchen

40+ locations in Oklahoma

RESTAURANTS



Overview - Popeye's Louisiana Kitchen, or often referred to as Popeye's Chicken & Biscuits, is a large quick-service chicken chain with more than 2,000 locations in the United States and in over 22 countries.

Challenges - The Popeye's in Oklahoma all have steam tables where a float regulates the water levels. When the water level drops, more water will go into the steam table because of the float. But due to extremely hard water in the state, the float would scale up badly and would not allow the tables to refill. This would be a constant issue that required a lot of labor, cleaning and replacement.

Solution - A commercial model **SB-250** was installed in each of the Popeye's branches in more than 40 locations around the Oklahoma state area.

Installed - 2011-present

Outcome - The **ScaleBlaster** unit has kept the floats completely scale-free, saving the branches from the continuous maintenance they were experiencing.

International Beer Garten

Lutz, Florida

RESTAURANTS



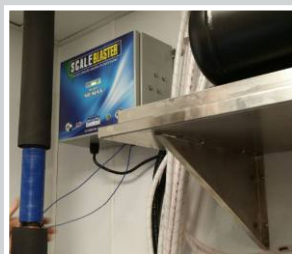
Overview - The International Beer Garten is located in Lutz, Florida and provides patrons with a relaxed environment and the widest selection of beers across the world.

Challenges - The International Beer Garten has two high-end Hobart Commercial under-the-counter dishwashers costing nearly \$8,000. They are very compact in size, but offer a high-temperature, superior sanitizing system that can wash glasses and dishes in minutes. They save labor time for the bartenders who no longer have to hand scrub and sanitize hundreds of dirty glasses nightly. Within the first year, the expensive dishwashers started breaking down. The repairman said that limescale was building up on the bottom of the units, causing the parts to break. Repair bills were "in the hundreds" for every visit as the scaling issues continued.

Solution - After hearing about **ScaleBlaster** and researching the benefits it offers, a **ScaleBlaster** unit was installed on the main waterline going to the building.

Installed - January 28, 2010

Outcome - Immediately after installation, the dishwasher breakdowns stopped completely. Since the installation of **ScaleBlaster**, the dishwashers have worked "like a charm" without the dishwasher breaking down and costing hundreds of dollars to repair. Downtime of the dishwasher is no longer an issue either.



Overview - White Castle is a hamburger restaurant chain generally credited as the first fast food chain in the USA. The company was founded in 1921 and is best known for its small, square hamburgers. In 2014, Time magazine labeled their slider to be the most influential burger of all time.

Challenges - Due to the hard water in the area, the Illinois stores were experiencing lime scaling issues in the ice machines, stainless steel fixtures and in the coffee machines.

Solution - **SB-MAX** units were installed on the incoming waterlines entering the building.

Installed - April 8, 2013, October 23, 2013 & February 19, 2015

Outcome - Scaling is no longer an issue in the machines or on the fixtures. The company maintains the highest standards in the industry as far as kitchen operations & cleanliness goes while using only the highest grade of equipment in their kitchens. Protecting their equipment while saving on labor and chemicals is a priority for White Castle.

McDonalds

State College, Pennsylvania

RESTAURANTS



Overview - McDonald's is the world's largest chain of hamburger fast food restaurants. They serve around 68 million customers daily in 119 countries with more than 35,000 outlets. Their revenue is over 28 billion dollars a year. They are the world's second largest employer with 1.9 million employees.

Challenges - With a hardness level of 27 grains, a McDonald's in State College, PA was experiencing several problems associated with hard water – scale buildup in faucets, toilets, sinks and kitchen equipment in addition the scale was clogging up the dishwasher.

Solution - The original **ScaleBlaster** model SB-100 was installed on the waterline entering the building.

Installed - September 26, 1997

Outcome - Within days of installation, employees noticed a difference in the water. The limescale buildup in the faucets had disappeared, the toilets were easier to clean and the overhead sprayer on the dishwasher was no longer clogging up. The owner reported savings in soap usage, cleaning supplies and labor – especially the savings realized in plumbing and fixture maintenance repair.

Various Cruise Ships

Worldwide

SHIPS-CRUISE/NAVAL/CARGO



Overview - Various very large cruise ship lines have installed **ScaleBlaster** worldwide. At the request of the cruise ship owners and their dealers, details on the names of the ships and some of the applications aboard the ships that **ScaleBlaster** is working on - are kept secret.

Challenges - Cruise ship lines are using **ScaleBlaster** for various hard water issues. The cooling system that is used to cool the heat exchangers, the engine and other components, would rapidly scale up due to the saltwater being used. The huge ballast system would scale up badly. The labor intensive cleaning job on the 12" pipe and downtime to the ship is extremely costly. Scaling would be an issue in the pre-booster heating elements in the dishwasher. The sauna rooms steam generators would scale up and require constant maintenance.

Solution - Various **ScaleBlaster** models have been installed, including small commercial models and large industrial models, such as the **SB-2800**.

Installed - 2010 to present

Outcome - The hard water problems aboard ships, due primarily to the salt water, is considerably easier to manage because of **ScaleBlaster**. Scaling issues are greatly reduced or eliminated in the various applications aboard cruise ships (and other ships too like Naval or Cargo). The savings in acids and labor alone is considerable.



Overview - The Physicians Care Surgical Hospital is part of Nueterra Healthcare and is a 30,000 square-foot multi-specialty surgical center in Royersford, PA. They are equipped for general surgery, gynecology, oral & maxillofacial surgery, ophthalmology, orthopedic surgery and otolaryngology.

Challenges - The newly opened hospital wanted a preventive maintenance system on its facility and on its hot water system for hard water issues.

Solution - ScaleBlaster models **SB-150** and **SB-450** were installed on the boiler and main waterline entering the building.

Installed - October 18, 2011

Outcome - ScaleBlaster has provided a preventive maintenance program for the hospital without any issues - in a very hard water area.

Same Day SurgiCenter (SSO)

Orlando, Florida

SURGICAL CENTERS



No cameras were allowed inside the surgery center.

Overview - Same Day Surgicenter of Orlando, aka SSO, is a member of the largest network of outpatient surgery centers in the USA. They provide Orthopedics, Podiatry, Gynecology, Urology, Otolaryngology/ENT and Pain Management services.

Challenges - The surgery center was looking for an alternative to water softeners to keep the boiler system free of limescale buildup. Any significant scaling in a boiler could cause an explosion if not controlled. A state inspector reviews the inside condition of the boiler to determine if it's being properly controlled.

Solution - An old **SB-400** was installed on the supply line feeding the boiler as well as the loop return line to insure total scale control.

Installed - June 2, 2008

Outcome - Since the date of installation, the boiler has remained totally free of limescale buildup. Every six months the inspector comes by and is totally surprised to see no scale – despite the fact there is no manual cleaning with chemicals or the use of a water softener. The savings over the years have been in the tens of thousands of dollars in water softener costs, salt, water savings and labor.

Flying J Truck Stop

Indianapolis, Indiana

TRUCK STOPS



Overview - The Flying J Truck Stop in Indianapolis, Indiana is part of the Pilot Flying J corporation. They are currently the largest purveyors of over-the-road diesel fuel in the USA. They are the largest Travel Center chain in the country with more than 550 locations under the Pilot and Flying J brands. Pilot Flying J is the 3rd largest franchiser of quick service restaurants in the USA.

Challenges - The extremely hard water in the Indianapolis area was causing serious limescale issues for the truck stop/convenience store. The showers, toilets, sinks, soda machines were all scaling up and needed constant cleaning and replacement parts.

Solution - One **SB-250** was installed on the main waterline going to the building.

Installed - July 12, 2012

Outcome - The scaling issues have completely stopped saving the truck stop a considerable amount of money yearly on chemicals, maintenance and downtime.



Overview - Purdue University was founded in 1869 and today has about 39,000 students and more than 3,000 academic staff members. They offer more than 200 majors for undergraduates and over 70 masters and doctoral programs with professional degrees in pharmacy and veterinary medicine. Purdue is a member of the Big Ten Conference and has 18 intercollegiate sports teams and 900 student organizations.

Challenges - Due to the hard water in West Lafayette, the cooling tower for the campus's own power plant was constantly clogging up with heavy limescale and causing issues. The university was looking at ways to conserve energy and water and has given **ScaleBlaster** a try.

Solution - A large **SB-3600** industrial **ScaleBlaster** unit was installed on the chilled water loop going to the cooling tower.

Installed - August 26, 2013

Outcome - There have been no scaling issues at all since the date of the installation. A complete study has been ongoing and will be released soon with full details on the full results including water savings and more. Additional units will be added at that time upon the final review.



University of California

Davis, California

UNIVERSITIES



UC DAVIS
UNIVERSITY OF CALIFORNIA

Overview - The University of California, Davis (aka UCD or UC Davis) is a public research university located just west of Sacramento and encompasses 5,300 acres of land. With more than 35,000 students and an administrative and academic staff of nearly 25,000, the university ranks among the USA's best.

Challenges - Due to extreme water shortages in the state, the university was under state-mandated orders to conserve water as much as possible. With extremely hard water in the area, water softeners were not an option any longer.

Solution - **ScaleBlaster** has been installed in over 150 buildings on the campus. The units range in size from the old **SB-125** model to the industrial-sized **SB-2800**.

Installed - 2004 - current

Outcome - **ScaleBlaster** has been a total success with installations on more than 150 buildings including dormitories, faculty buildings, cafes, cooling towers and more. **ScaleBlaster** is now automatically spec'd on any new building and retrofits on the campus. Due to the tremendous success of **ScaleBlaster** at UC Davis, **ScaleBlaster** will now be installed on UC Santa Barbara and UC San Diego's new buildings and retrofits. Less maintenance along with not having to use chemicals, water softeners and salt have saved UC Davis a considerable amount of money.



University of Notre Dame

Notre Dame, Indiana

UNIVERSITIES



Overview - The University of Notre Dame was founded in 1842. The Catholic character of the campus is reflected in its explicit commitment to the Catholic faith and is constantly ranked as one of the top universities in the world. There are more than 11,700 students currently and 120,000 alumni. It's athletic teams are known as the "Fighting Irish."

Challenges - Located in a very hard water area, the dormitory's on the campus were experiencing issues with their domestic water supply. The showers, toilets and sinks were all experiencing serious lime scaling issues as well as low water flow rates.

Solution - One **SB-350** was installed on the incoming main water line going to the building.

Installed - May 15, 2013

Outcome - **ScaleBlaster** has solved the hard water issues without the need of an expensive water softener. The water flow pressure has returned to normal and there are no longer scaling issues with their showers, toilets and sinks.





Overview - The City of Stuart is located on Florida's east coast and is known as the "Sailfish Capital of the World." Their water reclamation facility is a conventional activated sludge treatment facility originally built in 1955.

Challenges - The facility has a chlorine injection line used to sanitize the reclaimed water that would scale up weekly – restricting the pipe line going to the clarifier hundreds of feet away. The electronic valves and fittings would scale up and cause stress on the pumps with back pressure.

Solution - One **SB-350** model was installed on the outgoing pipeline going to the clarifier - right after the chlorine injection equipment.

Installed - October 12, 2012

Outcome - The results were astonishing. Scale formation virtually disappeared in the chlorine injector line. In the past, an employee would have to spend an entire day – once a week – flushing the lines and cleaning the electronic valves. The city now has a virtually maintenance-free system protecting the chlorine injector lines and the pumps are no longer subject to back pressure stress.

American Bottoms

Sauget, Illinois

WASTEWATER TREATMENT PLANTS



Overview - The American Bottoms Wastewater Treatment Facility is a very large facility located in Sauget, Illinois. They can treat an average of 26-52 million gallons of wastewater a day of municipal and industrial water.

Challenges - Heavy limescale formation on structures & equipment (from quicklime that is added to neutralize the water) were forming 8" - 10" thick. There were huge expenses from cleaning & disposal of the limescale on a weekly basis plus all of the downtime.

Solution - The **SB-4000**, **SB-3600** and **SB-2800** were installed on the two main water pipes (36" pipe) transferring the incoming wastewater to the process. One **SB-2000** was installed on the lime recirculation line to treat the lime slurry.

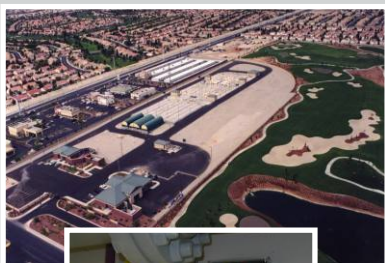
Installed - February 23, 2012

Outcome - Within the first month, scale formation slowed down dramatically, thus reducing the cleaning of the structures to a fraction of the time. The scale formation was much softer also. As an added bonus, they no longer needed to add polymers to the water saving more than \$1,000 a month. The savings on cleaning, equipment repair, replacement, energy, water usage, manpower, downtime and use of a polymer is estimated at more than \$100,000 a year.

Las Vegas/Durango Hills Water Resource Center

Las Vegas, NV

WASTEWATER TREATMENT PLANTS



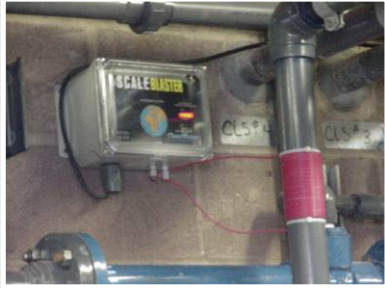
Overview - In one of the biggest public works projects by the city of Las Vegas, a state-of-the-art \$37 million Durango Hills Water Research Center was constructed. It collects municipal sewer wastewater and treats it to standards that make it safe for irrigation to many area golf courses and parks.

Challenges - From the start, the ultraviolet disinfection system failed expectations and made it necessary to rely on sodium hypochlorite injection to ensure that output of the recycled water distribution system met safety standards. This in turn, caused rapid scale fouling of the two operating sodium hypochlorite disinfection systems. From the injectors to the contact basins, these systems include extensive networks of pipeline as well as valves, pumps, etc. Descaling meant 8 hours per week of acid washes and replacing sections of blocked pipelines.

Solution - One **SB-200** was installed on the incoming pipeline.

Installed - June 2003

Outcome - Within in one month of operation, the chemical feed line was completely scale-free and flow rates were optimal throughout the disinfection system. A second **SB-200** was installed in April 2004.



Overview - The City of Henderson is the second largest city in Nevada and is part of the Las Vegas metropolitan area. In 1999, the city recognized the need for a satellite facility to support the areas increasing wastewater treatment and reclaimed water distribution demands and a new facility was built.

Challenges - In the summer of 2002, the operations staff noticed a decrease in the sodium bisulfite feed rate. A mixture of sulfur and calcium were clogging up the lines. Looking at different options other than using acids to clean out the 200 feet of underground piping system, the operators gave **ScaleBlaster** a try. The water hardness level in Henderson is extremely high.

Solution - One **SB-400** was installed on the incoming feed line.

Installed - December 17, 2002

Outcome - As documented in a case study, the scale formation completely dissolved back into the water over a period of a few weeks. The operators were able to avoid the tedious job of acid cleaning the two hundred feet of pipe of limescale on a regular basis.

Wet 'n' Wild

Las Vegas, NV & Kapolei, Hawaii

WATER PARKS



Overview - Wet 'n' Wild are globally known water parks with its wide assortment of swimming pools and water slides. The Wet 'n' Wild parks in Las Vegas and Hawaii draw hundreds of thousands of guests each and every year.

Challenges - Located in very hard water areas, the water slides in both the Hawaii and Las Vegas locations were suffering from severe limescale buildup on the slides. The appearance and performance of the slides were hindered by the rock hard white substances where the water flows. Riders were slowed down by the scale buildup on the fiberglass slides. The water flow coming out of small ¼" tubing was getting restricted. The rides had to be shut down completely and wet-sanded and buffed to remove the limescale.

Solution - Multiple **SB-450s** and **SB-650s** have been installed on the two parks, covering virtually all their slides in the parks.

Installed - Hawaii units were installed, August 8, 2013 and the Las Vegas units were installed on June 15, 2014 and additional ones on August 20, 2014.

Outcome - The limescale issues have totally stopped. The savings in labor, chemicals and reduced downtime is substantial.

Six Flags Fiesta Texas

San Antonio, Texas

WATER PARKS



Overview - Six Flags Entertainment is the world's largest amusement-park based corporation (based on properties). Six Flags Fiesta Texas is a 224-acre theme/water park located in San Antonio, Texas.

Challenges - The new Tornado ride was experiencing unsightly limescale deposit formation inside the "funnel" where the water was flowing. This was greatly restricting the water flow rate thus affecting the overall enjoyment of the ride. Considerable labor costs, chemicals and downtime were involved to keep the ride scale-free.

Solution - An old **SB-XX** model was installed on the 3" water line going to the ride which included an 18,000 gallon pool.

Installed - August 8, 2011

Outcome - The limescale has stopped forming where the water flows, allowing the water park ride to enjoy normal flow rates without all the labor, chemicals and downtime.