

A SPECIAL REPORT

ISRAEL AND EMERGING WATER MARKETS

THE GROWING DEMAND FOR NEW WATER TECHNOLOGY SYSTEMS

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**ISRAEL AND EMERGING WATER MARKETS:
THE GROWING DEMAND FOR NEW WATER**

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Israel And Emerging Water Markets: The Growing Demand For New Water Technology Systems

The worldwide demand for new water technology and management systems, by industry and individuals, is constantly growing, in both developed and developing countries. For example, China alone will spend hundreds of billions of dollars over the next several years for wastewater treatment and infrastructure, according to Francesca McCann, Senior Research Analyst for the Stanford Group Company.

“More than one-fourth of the Chinese population still does not have access to safe drinking water,” McCann reports.

Annual U.S. government assistance for meeting wastewater standards in the U.S. is about \$4.5 billion. Frost & Sullivan reported that revenues from the global residential water treatment equipment market exceeded \$15 billion in 2005. Billing from Asia accounted for 67% of the share, according to the company, which estimates that the size of the worldwide market will jump to \$41.53 billion by 2011.

World Bank experts have cited the tremendous need for clean drinking water and wastewater treatment systems in many developing countries in Africa, Latin America and Asia. The World Bank's experts have determined that only 50% of Africans have access to clean drinking water and water sanitation systems. In Latin America and the Caribbean, 75 million people still lack access to clean drinking water according to the World Bank, while 52% of people in East Asia do not have access to adequate water sanitation systems. The World Bank has provided an average of \$1.6 billion in new loans for water supply and sanitation projects in Africa, Latin America, and Asia over the past two years.

Against this background, companies and university researchers have begun to step up their development and export of efficient wastewater treatment and water supply technologies. One of the leaders in the field is the small nation of Israel, which recycles 60-65% of its wastewater. That country boasts the world's largest desalination plant that is based on the highly efficient reverse osmosis method, and has authorized the construction of another large, reverse osmosis desalination plant. Israel exported \$1 billion in water purification and water management solutions in 2006, a 25% jump over the previous year's figure, according to the Israel Export and International Cooperation Institute. At the same time, the country's universities are seeking to develop new water management solutions. Several factors, including the nation's lack of reliable freshwater resources and geopolitical considerations, have led Israel to become a world leader in the water technology and water management industry, according to Professor Raphael Semiat, the Head of Technion University's Grand Water Research Institute.

Israeli startups and a few of the country's more mature companies are developing water technology solutions that are drawing attention from some big players in the world. The Chinese, U.S., and Indian governments, as well as a global Fortune 100 company, have signed partnership agreements or contracts with several Israeli companies in the field. All of this activity and attention has Israel's industry leaders excited about the moneymaking potential of this new field.

"The water industry is where the telecommunications industry was 20 years ago, highly regulated and on the verge of a major change," says Ori Yogev, chairman of Waterfront, a newly formed industry lobby in Israel that is comprised of Israeli academic institutions, the state-owned water utility, and private companies. Yogev says that he is striving to turn the country into water technology's equivalent of Silicon Valley, with \$5 billion in water-related exports by the end of the decade.

Promising Israeli water technology companies like IDE, AqWise, Yamit, Atlantium, and En Gibton may enable Yogev to meet his goal. IDE is operating the world's largest reverse osmosis desalination plant in Ashkelon, a coastal city south of Tel Aviv, and recently signed new contracts with India and Spain to build and operate desalination plants in those countries. The company also recently won a tender to build another large desalination plant in the Israeli town of Hadera, near Haifa. The company is operating in 40 countries, according to Gustavo Kronenberg, the company's VP of Business Development and Concessions, and the CEO of the consortium building and running the desalination plants in Israel.

Atlantium, a three year old company with headquarters near Jerusalem, has developed a new wastewater treatment technique that Professor Semiat calls "the most important treatment technology in Israel. The company's technology looks very promising," the professor added.

The company has developed a unique water disinfecting process that combines ultraviolet light and fiber optics. In previous UV-based water purification systems, water in a tube passes over submerged UV lights, but the light is inefficiently deployed, and gets dissipated inside the tube, Atlantium claims. Atlantium's system utilizes two UV lights that pass through a tube containing water and a quartz inset. The light disinfects the water, and then reflects off the quartz, causing the light to disinfect the water several times.

"The main feature (of our product) is actually the ability to inactivate a tremendous amount of bacteria through the water," says Atlantium CEO Ilan Wilf, explaining that the company's treatment technique kills 99.99999999999999% of bacteria, compared with a maximum of 99.9% for existing purification techniques.

One of Israel's leading venture technology companies, Elron Electronic Industries (NASDAQ: ELRN), agrees with Semiat that Atlantium has great potential, and invested \$10 million in the company in October 2006 to back up its words.

"Atlantium is a very promising and high-growth company addressing sizeable markets," said Doron Birger, President and CEO of Elron. "We are confident that Atlantium's unique solution will revolutionize water disinfection processes in both industrial and municipal business environments," he added.

Based in a northern suburb of Tel Aviv, AqWise has developed a process that uses small plastic pieces of polyethylene as biomass carriers.

These carriers enable factories and municipal plants to treat wastewater more efficiently and less expensively, according to the company's CEO, Eytan Levy.

"When we add our process to an existing wastewater treatment plant, the existing plant that in the past couldn't remove nitrogen compounds, can do it without changes in the infrastructure of the plant," Levy explained.

Founded in 2000, the company has a backlog of \$12 million, Levy said. Global Fortune 100 behemoth Siemens is marketing the company's products in North America, Levy added

Siemens is also partnering with Mekorot, Israel's national water utility. The two companies agreed to work together in order to develop and market technologies for wastewater treatment and recycling, as well as desalination and water treatment security solutions. Interestingly, Mekorot, which supplies 70% of Israel's drinking water, is helping several Israeli water technology companies develop and market their wastewater and water treatment security solutions.

"Water is an extremely precious commodity in Israel. The landscape there provides the perfect environment for researching and developing water technologies in 'real-world' conditions and then marketing and selling them globally," said Dr. Roger Radke, CEO of the Water Technologies Division of Siemens Group.

Yamit E.L.I. is another growing Israeli company in the wastewater treatment field. The company develops and markets many type of water filters and filtration systems that utilize a variety of materials and technologies to purify wastewater. For example, the company sells reverse osmosis systems, which use semi-permeable membranes to separate and remove dissolved solids, organics, viruses and bacteria from water, leaving it 99% free of bacteria and 95-99% free of dissolved solids, the company states. The company also develops electric and hydraulic self cleaning water filters. Other filters developed by the company incorporate many different materials, including active carbon and anthracite, in order to remove contaminants from water. Yamit also markets a water treatment system that is easy to install and enables water to be quickly and easily cleaned by a 20 foot by 40 foot filter, according to Barbara Noti, the company's director of international marketing.

"It's a product that comes in what's called a 20-foot or 40-foot ISO standard container, and you put it on the ground, and it's ready to go with a couple of hookups to the water source," Noti explained. The product is popular in developing countries, she added.

Yamit sells its products in many different countries, but its largest markets have been in China, Latin America, and southern Africa, Noti added. The company, which employs 160 people worldwide, has been profitable for at least three years, and will probably see its revenue and profits increase substantially in the next few years, added Noti.

One example of the many promising Israeli startups in the water technology industry is En Gibton. Launched in 2005, the company has developed a clay complex that absorbs industrial waste and herbicides from water, according to the company's CEO, Raphael Nevo. The decontamination process developed by En Gibton is cheaper than the existing water purification processes, such as ion exchangers or activated carbon, Nevo claims.

"We created some kind of a complex based on the clay that is able to do a much better job in absorbing contaminants than what activated carbon is doing right now or ion exchangers are doing," Nevo explained. "Our product is meeting the demand of being competitive in price per cubic meter of water treatment price," he added.

Nevo believes that his company's product is also the only existing means of removing perchlorate, generated by rocket fuels and dye manufacturing, from water.

The company has received a total of \$700,000 in seed money from BHCO, a venture capital company owned by Nevo, and Israel's Office of the Chief Scientist, which provides funding to promising new companies. Nevo says the company, which currently has six full-time employees, will begin generating substantial revenues in the second half of 2007. En Gibton was founded based on technology developed in Israel's Ashkelon Technological Incubator. The Ashkelon incubator is solely dedicated to developing new water technologies, and receives funding from the Israeli government.

Recommended Reading for New Water Technology Systems

We are proud to have prepared the following report on Israeli Water Technologies which includes interviews with several of Israel's foremost authorities on water technology and water management. In addition, there are also interviews with some of the foremost authorities on international water management issues.

We welcome you to read the interviews that follow.

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Decidedly Strategic Private Equity in Water Christoph Lueneburger, 3Stone Advisors LLC



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CHRISTOPH LUENEBURGER leads the water investment practice of 3Stone Advisors. Prior to joining 3Stone, Mr. Lueneburger was Managing Partner of Rigger+Stern Capital Management. His previous professional career includes roles as general manager of a European advanced materials manufacturer; director in the New York based corporate venture capital arm and corporate development unit of a European conglomerate; and R&D manager in an international manufacturing company. As author of a range of articles in 3Stone's Metacatalyst series on water, Mr. Lueneburger has been published in industry periodicals such as WC&P International, Journal AWWA, and Industrial Water World. Mr. Lueneburger is a licensed professional engineer and holds a B.S. in Mechanical Engineering, a Minor of Arts in Philosophy, and an M.S. in Fluid Dynamics from Purdue University as well as an M.B.A. from INSEAD.

IA: Mr. Lueneburger, would you start by giving us an overview of 3Stone Advisors LLC?

Mr. Lueneburger: We recently launched 3Stone Advisors as an affiliate of Stonehenge Partners, a \$500 million private equity and mezzanine investment house. Like Stonehenge, 3Stone is a private equity investor, but we also serve as investment bankers and advisors with a decidedly strategic perspective. So it's really a triad of services we are providing to the market. We have secured a \$100 million commitment from our anchor investor and we're going to raise more than that starting the first quarter of next year. Our investments are principally focused on water and health care.

IA: Could you tell me which direction you see water stocks going right now?

Mr. Lueneburger: As private equity investors we are perhaps not looking at publicly traded companies as attentively as a typical hedge fund or institutional investor would. Having said that, we recognize that the p/e ratios in North America are quite lofty compared to most other places in the world. And this reality is mirrored in our world by the equally aggressive multiples that many public companies active in water, starting with the big ones like GE, Siemens, and so forth, are paying when they, in turn, acquire other companies to fold into their wheelhouses.

IA: You published a very interesting article on the private equity perspective on water. What was your motivation behind this article?

Mr. Lueneburger: It really began with the apparent need to characterize strategic investing on the water space. Historically it seems the term "strategic investors" frequently means industrial investors, that is, there is an implicit assumption that acquisitions among industrial players are necessarily strategic. This perspective often places financial investors on the opposite end of the spectrum, so that either you are strategic or you are financial. Part of the motivation was to demonstrate that not all industrial investors are necessarily strategic investors. Moreover, some strategic investors are financial investors, and we are one of the latter. We think about more than the balance sheet of a company and its income statement. We bring operating backgrounds and a strong appetite for mapping the competitive environment and cultivating strategies to develop sustainable value propositions by investing well and creating value along the way.

IA: So you do find yourself dealing with more strategic investors as opposed to industrial investors?

Mr. Lueneburger: Well, we are a strategic investor, and we often find ourselves looking at investment opportunities where we believe

that having strategic insight allows us to either see value where others might not, or to initiate a dialogue that might, otherwise, not be possible with a potential seller.

IA: As far as some of the conceptual sectors that you are dealing with, are you going into more than one area -- for instance, wells, surface water, desalination?

Mr. Lueneburger: We look across the entire water industry with a fairly specific perspective, which delineates the market along three dimensions. Those dimensions are transportation, information and process. So if you are in RO or UV or chemical treatment, for example, you are essentially processing water. If you are a company that develops software for billing or reporting something about the status of water, such as metering or leak detection, you're into information. And then if you are in conveyance of any type – pumping, valves, pipes, trenchless technology and so forth – then you are into transportation. So, we look at those three dimensions of the market and rather than restricting ourselves to specific niches such as ultra-pure or low-flow applications, we are looking for opportunities to integrate all three dimensions to specific target segments. What I mean by that is, if we see an opportunity to acquire a pump manufacturer, we would evaluate whether we can create value by understanding the target segments of that pump manufacturer and then bundling into that offer all other things, or many of the other things that customer group associates with water. For example, if it is some kind of automotive plant that needs a certain set of pumps and valves and a certain kind of software and filters and so forth, our goal would be to assemble a product and service that encapsulates water to that customer, and that means all of it. So, when they turn on the faucet, so to speak, what comes out is the right purity, the right temperature, the right pressure, just the right set of characteristics to really allow them to focus on their business, which in most cases is not water, but something altogether different.

IA: Would you say that a lot of your initiatives are geared to a certain part of the country, since certain parts of the country are more industrial and some are more corporate?

Mr. Lueneburger: No, there really is no geographic focus. Certainly, we are predominantly looking to take positions in domestic companies, although we have looked at companies outside the United States. In addition, it's our hypothesis that many of the kinds of opportunities we are pursuing are going to be applicable globally, whether the company is located in the Midwest or in the Southeast. Many of the solutions we are interested in pursuing, the kinds of processes, are going to be applicable not just in North America, but anywhere. That, too, is an element of a sound strategic perspective.

IA: Do you think you'd be able to make some sort of contribution to third world countries as well, especially with the transportation initiatives?

Mr. Lueneburger: I certainly hope so. Obviously we are strategic investors and we are looking to create value. But many challenges

in the third world and developing areas of the world in general require entirely new approaches and new solutions. I am convinced the investment community can create real economic value while advancing superior solutions that regions in need might otherwise not have access to. And you don't have to go to the third world; China, today, is one place that already faces sobering fundamental problems related to water supply and usage.

IA: In your experience, what has been the greatest change in the investment sector of the water industry?

Mr. Lueneburger: Far and away, the biggest single change has been the growing exposure – some would call it hype – of water over the past decade or so. In the early 1990s, if you spoke about water in the context of investing, there was little to no response. Of course, in the second half of the 1990s, water simply didn't have the attributes that most people got excited about, whether it was institutional or retail investors. It wasn't dot.com, it didn't seem scalable, and as a physical good it was just a bit messy. It is only in this millennium that people are becoming aware of the value inherent in water – and quickly so. The fact is that at the end of the day, unlike any digital value proposition, here you have an essential good without substitutes and rising and largely inelastic demand. So, over the past five years or so we have seen a significant increase in investor interest across the board, although in many cases, it is an interest that is still quite broad rather than strategically differentiated.

IA: Would you say that interest has increased more in the commercial area or in the industrial area because of the hype? I'm asking this question because a lot of the hype has come with water itself being more commercialized in the last 15, 20 years.

Mr. Lueneburger: That's a very good question because the term "hype" can be quite misleading as the water industry boasts numbers that would be hype in any other market, but that are real here. Take the hundreds of billions of dollars needed in incremental spending just to keep our infrastructure where it is over the next 20 years or so. That is not hype. Those are numbers that were arrived at with rational analyses. But the fact that those analyses are now being conducted suggests that both commercial and industrial interest has increased by orders of magnitude.

IA: Do you see the research decreasing any or increasing over the next 10 to 20 years?

Mr. Lueneburger: When you say "research," do you mean research on the stocks or research in fundamental technologies and processes?

IA: Both.

Mr. Lueneburger: At the fundamental level, the scientific level, I am certain we are going to see an increase in research, but it is going to be driven, to some degree, by a change of classification. That is, we will increasingly see players like Nanotech, which, a few years ago, you wouldn't have associated with the water industry. The research that is going on there is becoming increasingly relevant to

us, and thereby expanding the total amount of research devoted to water. Other such areas include biotech as it relates to things like endocrine disruptors and other concerns having to do with very faint trace amounts of compounds that we would not have been concerned about in the past. So there is going to be an increase in research, but it is going to be fueled to some degree by new kinds of science devoted to the field of water. On the securities side, I would similarly expect an increase, which is being foreshadowed already by new indices and ETFs devoted to water. There are a few analysts looking at water today, and they are good at what they do, but we will see many more just as we have in automotive and semiconductors. Water is inevitably going to become one of those staples as we grow increasingly aware that water is something to think about.

IA: Do you think that things like E. coli, carbon monoxide, and the increase of pollution and disease in the last 10 to 15 years, will have an effect on the private equity sector?

Mr. Lueneburger: There is no doubt they will have an effect on most any investment in this space. The challenge is understanding the timing of the effect because the common process is that the regulators define the hurdles over which the players have to jump. So, when you say E. Coli or when you really take any kind of contaminant, whether microbiological or disinfectant, organic or inorganic, most of them are going through a process where they will be short-listed, usually by the EPA. They've got to be tested, and we're going to try to understand their potential impact. But once there are conclusive results then all of a sudden many of us will have to ascertain that our effluent doesn't have this particular set of contaminants, for example. So those things form a staircase of sorts, because once a contaminant makes the list, it'll stay. The EPA is not likely to say, a year hence, "We're no longer worried about E. Coli," or whatever the case may be. So yes, I do think pollution is going to be very relevant, but I would temper that statement by cautioning that gauging the regulatory cycle in which these developments advance, and the amount of time that it takes to actually effect material changes in processes is very difficult. A good case in point is the perchloride activity that is going on in California right now. Even when the problem has been understood, it takes a while for the regulatory machinery to put in place checks and balances to actually manage the process.

IA: What would you say to events beyond our control, like Hurricane Katrina or a tsunami, that affect the economy?

Mr. Lueneburger: One of the interesting things that happened with the kind of events that you just mentioned, Katrina and the tsunami, is that people became aware that the very first thing that was needed was, in fact, water. It wasn't electricity or connectivity; it wasn't medicine or food; it was water. That realization and change of mind will be reflected in the markets over the long term. The second part of the answer is that obviously there were parts of the water industry that were severely affected by these events, both good and bad. Some people did very well as a result of these events;

others struggled greatly or went out of business altogether. Part of the problem in answering that part of the question is that when we speak of the water industry, we're talking about such a broad spectrum of products and services. Some segments saw no impact whatsoever and others saw a drastic impact.

By the way, you just focused on two natural disasters, but there are other unforeseeable events. Another class of events relates to human pollution, whether accidental, like a major oil spill, or on purpose, which is the kind of thing you might find on the radar of the Department of Homeland Security. Any of these events will further impact the way we think about water and the way we think about our exposure to threats that we may not readily perceive.

IA: Is there some type of forecasting information that you try to generate to your investors to find out exactly where the market is fluctuating?

Mr. Lueneburger: We definitely put a lot of thought into anticipating market trends for our own purposes. But that is rather specific to the individual segment. Within the three dimensions I outlined earlier, you might drill down into information to look more specifically at contaminant sensors, for example real-time optical sensors measuring methane leakage for utilities, and you'll find that each of these segments and sub-segments will have, to some degree, its own dynamics. Some are principally governed by local regulations; others deliver value propositions that are scalable and globally relevant. So we do invest in the process of generating our own intelligence to understand sectors and develop a point of view on strategic opportunities, but those perspectives are quite specific to the kinds of opportunities we are evaluating.

IA: What would some of those changes be, coming up in the near future?

Mr. Lueneburger: They will depend very much on the market segment, but will certainly include the kinds of things we have been talking about, from infrastructure rehabilitation to xenobiotics.

IA: In what area of this industry would you say you've been mentored the most?

Mr. Lueneburger: A lot of what I've learned about the water market I picked up by reading trade publications, by attending industry events, and most importantly by listening to a lot of people who have been immersed in this industry for many years. One of the attributes of this market is that there really is no central authority for all thirsts, so to speak, where we can download comprehensive information and get smart; it's simply too big and too diverse. It's also one of opportunities because you can select your areas of interest and really go deep to develop an understanding that may afford you a unique perspective. And I would add that the ability to do that, to come to the table prepared to advance a strategic dialogue, is one of the defining characteristics of the 3Stone approach. Perhaps the other dimension of mentoring that's relevant here has to do with technical understanding. The ability to look beyond the financial statements and appreciate a product and the process that creates it is really key, whether that comes from a

background in engineering or from having gotten grease on your hands taking the thing apart.

IA: How will private equity players find acquisitions? How will they make themselves known?

Mr. Lueneburger: One of two ways. The traditional channel is working with investment bankers who come across water deals. Because 3Stone is known to be into water, we are more likely to hear about those deals when they come up. The more distinctive way, perhaps, is to directly approach the company, that is, spend time understanding the company and then developing a perspective on the strategic opportunities that might exist and literally approaching the owners of the business saying, "Look, here is what we believe we can do together; let us be a partner in this venture and help create value along the way."

IA: Is there anything you'd like to add?

Mr. Lueneburger: There are a couple of broad topics that I think are important. The counterculture of the 1960s coined the phrase, "If you are not part of the solution, you are part of the problem." Given the fragmentation of the water market today and the

enormous effort devoted to refining specific membranes or resins, I think it's fair to say that in water, if we are only part of the solution we are part of the problem. The ultimate customer usually wants water, pure and simple, just like he wants gas, not crude oil and a better hydrocracker. So perhaps there are lessons in markets that have consolidated, like oil, that pertain to your question about the trends we are observing.

Secondly, in the case of water, we've got a whole set of additional challenges and opportunities, things like decrepit infrastructure, which we talked about, intensifying regulatory focus, population growth and on top of that demographics concentrating in regions where water is in short supply – the Southwest being a good example. The list is long and by the time you compound it with issues such as water born disease, pollution effects, and global warming, you've got a pretty volatile mix, and there is no doubt that investors with the right combination of thoughtfulness and pragmatism will do very, very well. But it will take real dedication and strategic insight to make that happen.

IA: Thank you. (VS)

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FRANCESCA MCCANN covers the water industry for Stanford Group Company's Equity Research division, which provides industry research for institutional investors. Ms. McCann covers water utilities and equipment/treatment companies and has developed niche coverage of the international water sector. Her professional career includes a political appointment at the U.S. Department of Energy, international work in Latin American trade policy at the U.S. Chamber of Commerce and business development at the French Embassy. Ms. McCann received her MBA from the UCLA Anderson School with a concentration in International Finance and her bachelor's degree in International Political-Economy from Colorado College.

IA: The first question involves China. The World Water Congress met recently in China and the most important question is about opportunities in China for the water market.

Ms. McCann: The statistics are astounding. More than one-fourth of the population – the largest population in the world – lacks access to safe drinking water and two-thirds lives without adequate sanitation facilities. The projected spending is also pretty impressive – in the hundreds of billions of dollars over the next several years for treatment and infrastructure. There are plenty of opportunities, but it is a tough market in which to play and competition is fierce.

IA: What is the level of foreign investment at this point and is it likely to increase?

Ms. McCann: Yes, we are likely to see an increase. The water giants, Suez and Veolia, have been in the market for quite some time. We also see the international conglomerates (GE, ITT, Danaher) as well as U.S. water companies (Watts Water, Insituform, Pentair, Calgon Carbon) looking to expand into the market. There are an estimated 16,000 small local companies in the market, so in terms of actual percent of foreign investment it is difficult to tell. At this point the majority of the investment is coming from China and Singapore, but U.S. and international companies are certainly making headway in the market.

IA: Given what you've described as a fierce level of competition and a highly fragmented market, should foreign levels increase? Does it make sense for American companies to go in at this point?

Ms. McCann: Overall, yes, if it is played well. The regulatory landscape is improving considerably. The Chinese government has established more stringent regulations for both water and wastewater. Also, the funding commitment for water and overall environmental protection has jumped dramatically, from \$20 billion during the recent Five-Year-Plan (end 2005) to about \$45 billion over the next five years for water pollution control, with \$175 billion committed for total environmental protection. There are certainly additional layers of risk, but if played strategically, yes there are opportunities.

IA: On balance, are you hopeful the necessary regulatory safeguards are in place?

Ms. McCann: Standards are improving. In terms of safeguards, it's unclear at this point. Corruption is still pervasive and transparency, while improving, leaves much to be desired. However, overall, I would say that the opportunities are compelling enough that U.S. companies and investors should certainly at least consider playing in the Chinese water market, ensuring that it is done tactically.

IA: On the infrastructure side, sticking with China, what is the

scope of the infrastructure investments that will have to be made over the next decade?

Ms. McCann: The estimated need is tremendous – in the hundreds of billions of dollars over the next several years. Growth rates in the market are around 12-15 percent and higher for certain specialty applications. The requirements are magnified by the upcoming Beijing Olympics and the 2010 Shanghai Expo.

IA: Moving on to a nearby giant, India, what are the prospects for the water market in India?

Ms. McCann: Very good question. India is also an area in severe need for treatment and basic infrastructure. Looking at investible opportunities, however, there are very few publicly traded companies. There is one infrastructure company, with less than half of revenues coming from water-related projects. There is also one consulting/engineering company, but it is quite small. Overall, looking at India's statistics – 85 percent of the population without adequate sanitation, 65 percent without safe drinking water and the majority of the population not linked to any public sewage system – the needs are colossal. On the regulatory side, India appears to not be as far along as China, though some in the industry believe that once the government begins to make regulatory changes, they will pass through quickly. I think that in the next year or couple of years, the news flow we are currently seeing for China will be matched by news of India's water needs. I think that private investors should certainly be looking at opportunities, but from a stock perspective, it is more difficult, at least for now.

IA: And elsewhere in Asia, perhaps starting with Thailand, given the recent coup, are there any specific political concerns in Thailand?

Ms. McCann: That's a great question, and actually, the impact was less than one would have thought. We have looked at Eastern Water, the water utility that services the Eastern seaboard of Thailand, the area in which industrial development is booming. The stock was essentially unaffected by the coup.

IA: Moving on to Singapore. They've certainly made a lot of noise about their environment and water research program. What is the potential impact of that program?

Ms. McCann: You are right. Singapore aspires to be the water hub of Asia and appears to be dedicating significant resources thereto. The program has been, and should continue to be, important in terms of exposure. We also see companies such as Sinomem and Hyflux electing to establish headquarters in Singapore for tax purposes.

IA: Are there any really fantastic opportunities in Asia outside of China?

Ms. McCann: There are a couple of other notable opportunities. Manila Water Company is the only publicly traded water company in the Philippines and services nearly half of the population of Manila. Puncak Niaga is a Malaysian water utility with an infrastructure subsidiary, though the company's performance over time has been underwhelming. Also, Japanese-based Kurita is the

largest water treatment company in Asia (\$2.5 billion market cap) and has performed well over the years. The stock, however, trades at a significant premium to the other companies in the region.

IA: So, perhaps not in Thailand, but overall in the region, are political concerns or changes in legislation having an effect on stock prices of water companies anywhere in Asia?

Ms. McCann: Regulatory changes certainly have an impact. With increased focus on water and basic infrastructure issues, many countries are devoting resources and attention to the sector. Earlier I mentioned the commitment by the Chinese government. The government of Malaysia has also vowed to improve the water situation in the country and recently committed \$4 billion to the effort. We are also seeing a trend toward privatization of the utilities in the region. An example of this is in Malaysia, where the government is accepting bids for its 84 percent stake in Maynilad, the country's largest utility.

IA: You cited corruption concerns, specifically for China, but is that also true elsewhere in Asia?

Ms. McCann: Through various conversations with people who work or have worked in the water industry in the region, yes, in many areas. Perhaps the corruption is not as evident as what we hear of in China, but in terms of personal connections trumping business operations and under-the-table exchanges, yes, they happen.

IA: Switching to another part of the world, Latin America and specifically Brazil. The election results this past weekend were not quite the expected ones. There will be a second round. Does that prompt any concern in the market in terms of the water industry in Brazil?

Ms. McCann: Not so much. SABESP, the largest water utility in the country, is majority state-owned and thus far, has been relatively impervious to political shifts. Copasa, the other publicly traded utility, also appears to be essentially unaffected.

IA: And in terms of the outlook for privatization for some of the remaining state water companies, any likelihood of that happening if Lula is reelected?

Ms. McCann: Yes, it is likely. However, privatization may occur in any case. We anticipate increased privatization in the coming years, but regardless of who is in power, it will be a slow process.

IA: Are there challenges that are unique to the Brazilian water market? What distinguishes it from other markets?

Ms. McCann: Overall, there is more investor focus on Brazil because there are two large publicly traded utilities in the country. If you look at the rest of South America, Chile excepted, there are no other listed utilities. Moreover, population growth in São Paulo, Rio and other cities is quite strong.

IA: Plus there's an underserved series of consumers that don't have sewage connections.

Ms. McCann: True, although that is also the case for other cities in Colombia, Bolivia, Paraguay, and elsewhere. We see similar sanitation (or lack of) issues throughout the region. The sheer size

of São Paulo and other cities makes the problems even greater – and the opportunities as well.

IA: Brazilian non-governmental organizations, as well as NGOs in a number of other countries, have been raising issues about water conservation, water consumption and privatization of water. Do you see their activities as a potential political stumbling block for either additional privatization or additional liberalization of the market?

Ms. McCann: I wouldn't say a stumbling block. If anything, increased attention to water consumption, conservation and other issues in the region is probably a benefit. Also, the driving forces behind privatization are likely strong enough that we will see the trend continue, albeit slowly.

IA: When you say slowly, are we talking a five-year timeframe? 10 years? Longer?

Ms. McCann: Over the next few years, I would say, possibly starting within two or three, more likely over the next five years and beyond.

IA: The U.S. water market was very hot a few months ago. In terms of prices, what do you see for the Brazilian water companies, and generally throughout Latin America, at this point?

Ms. McCann: Brazilian companies, on a valuation basis, are trading at much better multiples than the U.S. utilities. The U.S. utility average right now is at about 25 times 2007 estimates, whereas the two Brazilian companies are trading at about 7 times. Also, if we look at price to book, they are certainly more appealing, trading at about 1x book value, vs. the U.S. utility average of about 3.5x.

IA: Do you consider them a bargain?

Ms. McCann: They are certainly a better deal on straight valuation, but investors have to be comfortable with the risks as well. SABESP, for example, has not been terribly open to U.S. analysts and investors, which is somewhat surprising as it is one of the only international water companies listed on the NYSE.

IA: U.S. investors are paying very high prices at this point for water companies in the states. Do you think that they are likely to continue to maintain such a high valuation going forward?

Ms. McCann: Probably so, though not as high as what we have seen in the bubble periods. With the enthusiasm for "anything water," and the big players such as GE, Siemens and Dow continuing to build their water businesses and willing to pay up to 14-18x EBITDA, valuations will likely remain high, though perhaps not as high as we saw this past May or last September.

IA: Do you expect further consolidation?

Ms. McCann: Definitely. Because the industry is so fragmented on all levels, we are likely to see continued consolidation, both the small to medium sized companies acquiring the very small, local companies, and also the larger industrial conglomerates such as ITT, Danaher, and GE, as they continue to build their water businesses.

IA: In general terms, what are the structural forces driving growth

in the U.S. market and driving, of course, these valuations?

Ms. McCann: Consumer awareness has certainly improved and has become a strong driver. Also, increasing infrastructure investment needs. In the U.S., the EPA estimates the need for drinking water and wastewater infrastructure investment over the next 20 years at nearly half a trillion dollars. Supply and demand concerns and increasing urbanization and industrialization in many areas are key drivers. Treatment standards also impact the market, though the timeframe for compliance is often quite long. The flurry of M&A in the sector and the prices, as I mentioned earlier, are also driving the market.

IA: Are there any regulatory standards on the horizon that are scheduled to come into effect soon that might impact the market?

Ms. McCann: No, not really. On the wastewater side, new court-ordered consent decrees will have an impact. On the drinking water side, the new drinking water rules (LT2 and Disinfection Byproducts), were established last December and although they are in place, the compliance timeframe is quite long – five to seven years for the larger systems and an additional several years for the smaller systems. We also see that the compliance deadline for the arsenic rule, for example, has come and gone and over half of the systems remain out of compliance. So, although there are regulatory standards in place, they are slow to be fulfilled.

IA: What are the delays are caused by?

Ms. McCann: A couple of things: lack of funding – certainly federal funding and also at the local and municipal level. Many of the utilities simply don't have the money to make the upgrades. Also, even in cases where the funding is available, upgrades take time and adoption of new technology is often slow.

IA: Is there any significant interest in entering the market or expanding their presence in the market by either private equity players or other major investors that might want to take some of these companies private, or is there just too much of an upside at this point to staying public?

Ms. McCann: The private equity players are certainly hungry in the space and are searching out any opportunity. At this point we don't see the publicly traded companies likely to go private. The market drivers and investor excitement around water will probably keep them in the market. We are also seeing more interest from private investors and private equity for project-based operations and privatization of the utilities.

IA: In terms of the project-based operations, are there any particular large scale efforts or investments that come to mind?

Ms. McCann: On the international front, some of the desalination plants in the Middle East. In the U.S. there are certain projects in California.

IA: With regards to California, specifically, are there any regulatory standards on the horizon or any implementation of existing standards that might be ramped up in the near term?

Ms. McCann: We have seen a positive trend, particularly for the California water utilities. The makeup of the PUC (Public Utilities Commission) is much friendlier to the utilities than it was about a year and a half ago. So we should see an improved environment both for returns as well as potential consolidation. Also, the PUC's Water Action Plan and initiatives by the California Water Association are helping the sector. The Water Action Plan promotes water infrastructure investment, conservation, and streamlined decision making, and while it will take some time to implement, it is certainly a step forward.

IA: In terms of water conservation, has the focus on the whole toilet-to-tap issue been somewhat misdirected or misguided, at least in marketing terms?

Ms. McCann: In marketing terms, absolutely. One of the key themes that we are seeing more frequently is how crucial water reuse will be over the next several decades. That being said, the toilet-to-tap stigma, whoever coined that term long ago, has delayed certain water reuse efforts. Reuse, however, is projected to be one of the most critical areas of growth. In the U.S. this may be in the coming decade or decades, and in certain developing regions, China, for example, it may be nearly immediately. While it is doubtful that the average investor or consumer will be happy with household water recycling anytime soon, we are seeing a pick-up in industrial reuse. Membrane Bioreactors (MBRs), for example, are currently one of the hottest technologies.

IA: You mentioned launch of desalination plants in the Middle East. Is that still where the bulk of the water action remains in that region?

Ms. McCann: At this stage, yes. Geographically, it certainly makes sense and the political environment is much better than it is in the U.S. and other countries.

IA: Are U.S. companies able to take advantage of these opportunities at this point?

Ms. McCann: A little bit, although there are no longer any pure play desal companies since GE's acquisition of Ionics two years ago. Hyflux and Consolidated Water both have a desalination component, although Consolidated Water operates only in the Caribbean and Hyflux primarily in Singapore and China.

IA: In terms of the global water industry, what is the single toughest challenge the industry faces?

Ms. McCann: I wouldn't say that there is one single toughest challenge. Supply and demand imbalances, increasing urbanization and industrialization and inadequate infrastructure are certainly challenges, as well as drivers, for the global market.

IA: What would you say is the greatest, or the combination of the greatest, advantages that the industry enjoys right now?

Ms. McCann: The fact that water is an irreplaceable commodity and a hot market for investment. The drivers of the industry are quite strong and will only continue to intensify. The "water is the next oil" hype around the sector, and basic supply and demand issues will only increase in the future.

IA: Energy costs have gone down a bit after being very high, but they still remain high. Do you see that being a significant cost factor for the industry as a whole?

Ms. McCann: Certainly. We saw some of our companies take a hit when energy prices were sky high, and some are still feeling the impact. We are seeing some efforts to take advantage of the nexus between energy and water. Nalco, for example, is working on such initiatives.

IA: I take it you don't foresee the industry having any problems attracting capital any time soon?

Ms. McCann: Highly unlikely.

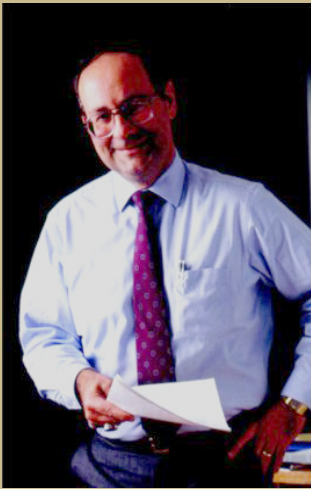
IA: Thank you. (DW)

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JACK HOFFBUHR was selected as the American Water Works Association Executive Director in February, 1996. He first joined AWWA staff as Deputy Executive Director on October 1, 1988, after more than 23 years of hands-on and management experience in dealing with water utilities in design, construction, operation, and training. After a two-year stint designing wastewater and water supply facilities in the Peruvian Andes for the U.S. Peace Corps, Mr. Hoffbuhr joined the Commissioned Corps of the U.S. Public Health Service and held a variety of positions including project engineer designing and constructing similar facilities for the Hopi and Navajo Indian Reservations in Arizona, several international assignments, and a special tour of duty with the Environmental Protection Agency. Before joining the AWWA staff, he had been an active Association member and volunteer for more than 20 years, with assignments on the Administrative & Policy Council, Technical & Educational Council, Education Division (chair), and numerous national and section committees. With graduate degrees in both Sanitary Engineering and Public Administration, Mr. Hoffbuhr is a Registered Professional Engineer in Colorado and a Board Certified Professional Engineer (Diplomate) in Water/Wastewater by the American Academy of Environmental Engineers

IA: Please give us an overview of the American Water Works Association in terms of its membership and mission.

Mr. Hoffbuhr: The American Water Works Association is the oldest and largest water organization in the world. We have over 61,000 members in over 100 countries or so. Our mission is to provide the membership with the tools necessary to ensure people have safe water

IA: What is the most common title of your members? Are they regulatory affairs people or engineers?

Mr. Hoffbuhr: The most common title would be manager of some form, either general manager of a water system, of a consulting company or of a manufacturing company. The second most common title would be some form of technical person, either engineer or water quality specialist.

IA: Are any regulators members of the Association?

Mr. Hoffbuhr: We do have regulatory members that are very active in the Association because they need the same kind of information that the other professionals do regarding what the

latest in technology is, the latest in research and what's going on in the world of water.

IA: As Executive Director, what are your main goals at this point?

Mr. Hoffbuhr: My primary goal is to insure that both the volunteer structure and the staff structure that support the Association, are, in fact, implementing the strategic plan that our board of directors has developed. Essentially that plan focuses on us being a strong advocate for the water profession and providing the kinds of products and services that are needed by water professionals to do their jobs even better.

IA: I understand that American Water Works Association is about to publish its third annual trend survey. Can you talk a little bit about what that trend survey covers and how the research is conducted to compile the survey?

Mr. Hoffbuhr: This started three years ago. Our purpose was to ask our members about the problems that they are dealing with and to give us an impression of what state the water industry is

in. What are the issues going to be in the next five years that they feel they are going to have to be successful at addressing in order to implement their goals? The way the research is conducted is by distributing a survey instrument to a wide range of industry professionals. Additionally we ask for written responses and we pay extra close attention to these because they really convey the true challenges some of these professionals face.

IA: I understand that one of the biggest features of the upcoming trend survey will focus on infrastructure. Can you give us an overview of what the survey reveals?

Mr. Hoffbuhr: Perhaps the key indication is, in the previous two years that we've done the survey, the respondents have said that a primary issue is aging infrastructure, and this year they stated that the issue is failing infrastructure. Obviously they are starting to see more of a failure rate with their infrastructure then they have seen before.

IA: What are some of the reasons that people who have taken the survey have indicated that more infrastructure is failing rather than aging this year? Was the weather a factor this year?

Mr. Hoffbuhr: It is primarily just the age of the lines due to the fact that much of the pipe in this country was put in the ground approximately 125 years ago and the useful life of that is now starting to end. A lot of the utilities have been able to keep on top of this issue by increasing maintenance but now the cost of the repairs is starting to exceed the cost to replace the pipe. Many utilities are on a 100 year cycle with pipe replacement, but that isn't sufficient based on the survey results.

IA: Do you have any numbers on the leakage rates, either a general number or what the range is?

Mr. Hoffbuhr: The range is anywhere from less than 10 percent to upwards of 30-40 percent in North America. Water utilities try to keep this rate below 10 percent for obvious reasons.

IA: Is there a rate or range of rates for contamination that occurs because of failing infrastructure?

Mr. Hoffbuhr: Not really. Usually when pipes fail the pressure is going from inside to outside, so you're not bringing contamination back into the line. When the utilities repair or replace lines, they thoroughly disinfect and sterilize them before putting them back in service, so the chance of contamination is slight, although I won't say it is impossible.

IA: When you speak of \$270 billion spent by 2030, what percentage of future dollars spent do you believe would be allocated to buying equipment versus the cost of deploying such equipment?

Mr. Hoffbuhr: I would say none of that cost would reflect new equipment purchases. It's essentially just for replacement of pipe infrastructure, either doing it themselves or hiring contractors.

IA: Are there any changes in pipe that is laid today versus pipe that was laid in the past?

Mr. Hoffbuhr: Actually, that is one of the reasons for the infrastructure issue. There have been three major periods of time in

U.S. history when most of the pipe was put in the ground. The first was around the turn of the century, the second was in the 1920s, and the third was around WWII. The pipe that was put in around the turn of the century was very thick cast iron pipe and would last somewhere around 125 years. The pipe technology changed in the 1920s, and was essentially a thinner version of the original cast iron so its life was in the neighborhood of about 75 years. Then around the war, technology changed again, so that pipe life was between 50 to 75 years. If you do the math you can see that all the pipe is reaching the end of its useful life.

IA: What is happening on the regulatory front to put pressure on utilities to make the investment in infrastructure?

Mr. Hoffbuhr: None of the regulatory agencies, either federal or state, have the authority to regulate when you replace infrastructure. EPA have encouraged utilities to use the principles of asset management in determining the useful life of any of the infrastructure, and to have a planned program to replace that infrastructure to ensure it's replaced in a timely manner.

IA: Are new regulations, such as those dealing with arsenic standards, another driver to replace obsolete pipes?

Mr. Hoffbuhr: It's not a driver to replace pipe, but the regulatory factor is a second key issue mentioned in the survey and in the next five years there are going to be a number of new regulations that will impact the water industry.

IA: What is the stance of the regulators on the increased expenditures that water companies have for both infrastructure and regulatory compliance? Are most of them accommodative as far as allowing water companies to raise their rates?

Mr. Hoffbuhr: For government-owned water systems, the State Public Utility Commissions rarely regulate the rates. For investor-owned water systems, the PUCs do regulate the rates, and they do take into account the costs in regards to both infrastructure and water treatment.

IA: Do you believe that a lot of water entities, publicly traded companies or municipalities, will have adequate financing, or will they need to tap the financial markets to accommodate these infrastructure issues?

Mr. Hoffbuhr: Clearly water utilities are going to have to look towards various means of financing. The third factor in the survey was how to finance the needed improvements in the coming years.

IA: Do you think that government assistance will become a little more liberal or do you think that the 10 percent figure will carry forward?

Mr. Hoffbuhr: It may go down, as a matter of fact. If you take a look at a federal budget, there's not much hope.

IA: Do you think the cost pressures and the difficulties of obtaining financing will lead to increased consolidation?

Mr. Hoffbuhr: When you consider that there are 52,000 water systems in the United States and probably 82 percent of those serve less than 3,000 people, I'd say that as these regulations hit, you will

see some consolidation.

IA: Do the local cities stand in the way of these consolidations?

Mr. Hoffbuhr: Any time you mention the “C” word, you hear arguments on both sides. Certainly there is a lot of pride in retaining control of local water systems. Cost eventually is what will eventually sway the decisions in the long run.

IA: What do you think the impact will be on privatization?

Mr. Hoffbuhr: I don’t know that you’re going to see any cities sell their assets to a private company. You may see some outsourcing of operations and maintenance.

IA: Another component of the trend survey focuses on source water. What are a few of the highlights that you discovered with respect to source water?

Mr. Hoffbuhr: There are two issues to highlight in respect to source water. One is, as our water resources are being used more and more for multiplicity of purposes, a variety of contaminants occurs. So managers cited that source water protection is something we need to be very diligent about in the future. The second big concern is where the water is going to come from, particularly in certain parts of the country experiencing explosive growth.

IA: What has to be done with respect to protecting source water for agricultural usage?

Mr. Hoffbuhr: It’s a combination of best practices, such as not overusing irrigation water, building buffer strips between the fields and water sources, as well as responsible application of pesticides. For concentrated animal feeding operations, having holding ponds will greatly diminish the likelihood of contaminants finding their

way into local water sources.

IA: What is the state of desalination in the U.S? Are there plants up and running that desalinate water?

Mr. Hoffbuhr: The largest one is in Tampa, Florida right now. One of the key questions that still remains in the planning and evaluation stage is what to do with the waste, brine from the process.

IA: Currently, is desalinated water potable?

Mr. Hoffbuhr: Yes, it is potable. Tampa Bay, for example, is using their desalinated water for potable reasons.

IA: How does the cost of producing desalinated water compare to traditional methods?

Mr. Hoffbuhr: It has come down dramatically in the last 10 years because of the improvement in the membranes.

IA: Are there any other areas you would like to address?

Mr. Hoffbuhr: I would like to say that the other issue that has moved up the charts this time is workforce issues. Utilities and others are concerned about losing their institutional knowledge as the baby boomers begin to retire in the next few years. Trying to find the skills necessary for the water profession to be successful is a major challenge.

IA: Are the water companies investing in more knowledge management tools?

Mr. Hoffbuhr: Yes. Plus they are using mentoring programs to prepare people for this new work.

IA: Thank you. (DW)

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AVRAHAM ISRAELI holds a Masters Degree of Science in the field of Agricultural Economics from Hebrew University, Rehovot. Mr. Israelis is the current Executive in charge of the Water and Environmental Technologies Dept. at the Israel Export and International Cooperation Institute. The Institute advances business relationships between Israeli exporters and overseas businesses and organizations. It is supported by over 2,600 member firms, private-sector bodies, and the government of Israel. By providing a wide range of export-oriented services to Israeli companies and complementary services to the international business community, the Institute helps build successful joint ventures, strategic alliances, and trade partnerships. Prior to the institute, Mr. Israeli was Managing Director at Gad Semiconductors, where he played a primary role in the establishment of the company's administrative and financial policy and procedures. In addition, Mr. Israeli spent many years at various Kibbutz associations and federations. His roles included Secretary General of the Kibbutz, Department Head of New and Small Kibbutz Communities, and Economic Director of the Kibbutz.

IA: Can you start out by telling me you're a little about yourself and your company?

Mr. Israeli: My name is Avraham Israeli and I am the Executive for Water and Environmental Technologies for the Israel Export and International Cooperation Institute.

IA: What segment of Environmental technologies do you think will experience the most growth and be the most profitable for investors?

Mr. Israeli: Okay. I think water technologies is one sub sector that are very interesting today globally because of changes in the water allocation, global water allocation, and the need for more water. It affects about two billion people that do not have access to high quality potable water. And, this, the water quality is one

of the causes for short life expectancy in continents like Africa; and, therefore, water technologies are so important. And the Israeli industry is positioned advanced and sophisticated technology. So, we are in the high level of water technologies; and, therefore, we believe that the Israeli water technologies are very attractive to many investors. You can see that some global companies like GE and Siemens and others come to Israel to search for advanced technologies in this segment. Another segment, or sub sector, in the environmental technologies is the alternative renewable energies. And, we focus here mainly in solar. Israel has plenty of solar radiation. There are many solar technologies that are in the forefront of technology of renewable energy in the world, especially in the solar thermal sector. As a matter of fact, Israeli Company built the biggest solar power plant in California 20 years ago. It's still working for 354 megawatts. And

now Israeli Company is involved in the building a very big solar power plant in Spain, another one in Nevada, and hopefully another one in California, a big one.

By the way, water and energy are very much related to each other. The desalination links water and energy. Because today if you have energy and you have access to seawater, you can have potable water. The only problem is the price. And, this is one of the revolutions that were done in Israel recently when Israel published the tender for the first big desalination plant in Ashkelon. When it was opened, the price was very surprising, because before that the price for desalination was between 80 to 100 cents per cubic meter. This tender the price was between 50 and 60 cents per cubic meter. And the reduction of the price was very significant; and, therefore, many people come to Israel to see how it was achieved. Now, the answer of this question has some dimensions. One of them is the energy price which Israel doesn't have any advantage on the other countries. Another one is the price of the capital, of the money, which Israel doesn't have any significant advantage. The third one is the technology. And the technology means how much energy you need per cubic meter for the desalination itself. And here, the recovery of maximum energy that is invested in the process, the rate of recovery, is very, very important. The Israeli technology was able to recover much higher rate of energy than other technologies. I think that it's not enough. And the price for desalination should go down even further. And, therefore, a lot of research is needed for that. And, in one of the strengths that we have in, not only in water technology, but it finds itself very clear in the water technology is the good contact between the academia, the research, the industry, and the government. And, we know each other; we are a small country. We know the researchers; we know the academic institutes; and, they know the industry. And, it makes it easier when you know each other to start to implement research into the industry.

IA: What is the government doing to encourage water technology?

Mr. Israeli: Last year, the government decided to give the water sector a special treatment, which means that to encourage companies to get into this segment in order to make Israel one of the leaders in the water industry, in the advanced water technology in the world. The means of the government is budgets. And, they allocated a significant budget to assist the water industry in Israel in many ways. First off, in the research area to

increase the number of research projects that are done in academia, to encourage more industrial incubator to work on water projects. There are now 2 water oriented industrial incubators and industrial incubators are also a phenomenon that is very unique. The third is to assist institutes like the Israeli Export Institute to promote the Israeli water industry abroad and to give us more means to do it and to assist the Israeli institute of standards, to be involved and to put high levels of standards of water technologies, which helps the more advanced technologies and will eventually assist all the global water industry.

One of the steps is to organize a big national water event every other year to exhibit our technologies and to attract people and professionals from all around the world to come and to do business with Israeli companies in the water industry. So, many world governments agreed and it began implementation this year. We, the Export Institute, have a major part in this activity, which is connecting the Israeli companies with companies and institutes abroad.

IA: How big of a market do you think water purification is in the world?

Mr. Israeli: The water Global market is about 400 billion U.S. dollars, annual market. It grows at a rate of between 5 and 8% per annum. Today, Israel exports only one billion of water related goods and technologies; so, we have a lot of room to grow and will. We want to grow and to become a \$10 billion industry in few years, which is a very big challenge, of course.

IA: Where is it growing? Where is the market growing specifically?

Mr. Israeli: The growing markets are in developing countries, but not all of them can afford to purchase, to acquire, technologies. However nowadays, you see that China is investing billions and billions of dollars in water issues, starting with desalination, waste water treatment plants, and even potable water treatment – big, big projects. Eastern Europe, after joining the European Community, they have a challenge to close the gaps between their standards of very low water quality and waste water treatment and the European Community itself, which holds very high standards in that. So, they have to invest and they are getting a lot of funds from the E.U. Unfortunately, the countries in Africa cannot afford to invest. And, when I spoke about the short life

expectancy in Africa, of which water quality is one of the main reasons, this is one of the sad things that we can say about the world, that we didn't find, the U.N. and other world organizations, didn't find yet the good enough ways, instruments, to solve this problem. I believe that the rich World must find the appropriate funds to improve the water situation in Africa. And we, the Israeli industry can be part of it; maybe not the biggest part, but we can be part of it. Because we are very flexible in our technologies and we can adapt them and we can tailor them to the needs of the customer. And if the customer is Africa, we will be able to find very low price solutions to assist African countries to solve their problems.

IA: Do you know how much Israeli water exports are increasing each year, approximately?

Mr. Israeli: Well, it's about the same rate. I think recently, the last years, we have about 8% of increase per annum.

IA: Why is Israel well suited, to be a developer of water technology?

Mr. Israeli: Why? Israel, traditionally, learned to live with a shortage of water. Since the beginning of the State in '48, we faced this problem. We had to start to salvage from the beginning. In the first phase, we built the national water carrier, which took water from the Sea of Galilee to the south; and temporarily, it solved the problem for the '50's and '60's. But, with the population growth, we had to find other solutions. So, we started to recycle waste water back to agriculture and learned a lot from this process how to do it more efficiently, what are the risks for the ground water, what are the risks for the plants, and to solve these problems. As a matter of fact, we became the leaders in water reclamation in the world because we recycle about 75% of the sewage back to agriculture. There is no other country that is even close to this rate. However, our challenge is to get close to 100%. It's not very simple, because we have water that we don't need for agriculture. So, we have to build reservoirs and to keep the water and to treat that. Well, it is not solved. There is still a challenge, but the next challenge became the desalination. The government decided to desalinate about 350 million cubic meters a year. And the first 100 million is already in operation, and another one is under construction, will start operation this year. Other two also are being already in the tender process. And they will start operation in a year and a half.

IA: How will the desalination plants help Israel?

Mr. Israeli: The problem of water for the next 20 years, for Israel itself, will be balance; because the desalination will balance the drought years, when there's not enough rain; because so far, the Sea of Galilee, which is the national reservoir, is in deficit, it is about six meters, I think, under the highest level, which is very low. And the ground water also is in a bad situation. But when the desalination project plants will start, all of them, will start to work, we'll be able to balance the water reservoirs, the surface and the ground water, the aquifers. So, in the long run, it will not be a problem to have a drought, one or two droughts, in a row. But, the problem is much wider, because Israel is not by itself. Israel has neighbors with also water problems, like the Palestinian Authority and Jordan. Jordan is almost total desert. And, the peace agreement with Jordan from '93, Israel agreed to supply about 50 million cubic meters a year to Jordan. And it's not enough for them. They will have to have more fresh water. The same goes for the Palestinians as well; as the population grows and they need more and more water and they don't have the water. In the Palestinian Authority, the water problem is very, difficult, very hard. So, Israel must have regional or must be part of regional solution for Jordan, maybe Syria also, and the Palestinian, and Israel. The only solution can be more desalination.

IA: How many desalination plants are planned altogether in Israel?

Mr. Israeli: In the next years, there will be five desalination plants. One of them is already working. I am speaking about seawater desalination, because there are some other desalination plants that desalinate brackish water, which is different. We have brackish water in the desert; and, in order to use them, you have to desalinate them. But, they are smaller plants. Speaking about the big seawater desalination plants, there are going to be five, or maybe four, because maybe one is not so sure that it will be built. But, altogether they will desalinate 350 million cubic meters a year.

IA: Have you heard anything about nanotechnology and what role that will play in water technology?

Mr. Israeli: When you are speaking about a desalination plant, you are speaking about nanotechnology. Some of the problems that desalination has can be solved with nano, especially when you are talking about the

biofouling of membranes. When you are talking membranes, you are talking about nano; because the membranes enable small molecules to go through and bigger molecules not to go. So, most of the salt molecules cannot pass, only the molecules of the water can go through the membranes. And there are some problems

dealing with the membranes that Israel researchers are trying to solve in order to reduce the maintenance and in this way reduce the costs of desalination. Now, there are other nanotechnology researchers in water. I can't give you more details. But there are.

IA: Thank you very much for your time.

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EYTAN LEVY is a founder, President & CEO of AqWise – Wise Water Technologies Ltd. Mr. Levy Founded AqWise in year 2000, and lead it to become a global leader in advanced biological wastewater treatment. Mr. Levy is named as one of Israel's leading and most promising entrepreneurs in the growing field of advanced water technologies. His twenty years career in management, marketing and sales include work as Industrial Sales manager at Ormat, a global leader in Renewing Energy, and as Vice President Infrastructure at Delta. Mr. Levy holds a BSc in Chemical Engineering and an MBA in International Marketing.

IA: Would you please start us off by talking a bit about the history of AqWise?

Mr. Levy: AqWise was founded in the year 2000 by me. Ronen Shechter is the CTO of the company and my partner for the management of the company. It was based on an idea that was developed in an industrial research institute. We acquired the rights on the “know-how” at the preliminary stages from the research institute, we founded the company, and we raised the capital to the company in the year 2000. We started to operate it, gradually expanding the human resources and focusing mostly on R&D in the first years. After about three years, we had a prototype, a beta site that we could already present in exhibitions, and we started marketing it parallel to the continuation of the R&D. In fact, in 2005, we finished the ‘debugging’ of the technology, and we started to sell more or less flawless systems. The leap in our activity was in 2006, when we reached almost 20 full scale installations worldwide.

AqWise now has an established marketing network worldwide, and we have operating installations. The technology is already proven and becoming popular. AqWise is now growing very fast. The headquarters of the company are located in Herzliya, Israel. Our R&D facilities, including a chemical laboratory, pilot plants, and bench top development utilities are located inside a municipal the wastewater treatment plant. We also have an operating section in the City of Yavne, where we own and operate the wastewater treatment plant of the city, Yavne in Israel. We have an office in Mexico City, covering Latin America. It's a commercial office with the marketing and projects activity. From this office, we manage the marketing and sales activities in Latin America and also the project management of projects that we run over there. In the U.S. and Canada, we operate through a licensee. It's Siemens Water Technology. We granted them a technological license for our technology, and they promote our technologies very well in the U.S. and Canada.

IA: Excellent. What have been key factors behind the growth of the company and its success?

Mr. Levy: I think that it has to start with a promising technology. It doesn't need to reinvent the wheel, but it must be a technology that is feasible and brings a real benefit. Once such a technology is available, I think from this point, the key factor is the human resources; the people from what the company is comprised of. The R&D people, the service people, the projects people; and we are lucky to have very high quality people at AqWise. This is a key factor. Besides the technology and the employees, it's also the shareholders. We were lucky to have good and supportive shareholders during this period of the company. They not only provided the capital when we needed to raise funds, but also provided the management support. It's also a key factor in the growth of the company.

IA: You led me well into my next questions, which are: Who has funded your company? What venture capital companies have invested in you?

Mr. Levy: We didn't use the model of venture capital. Our investors are investment companies. When we founded the company in the year 2000, the main investors were Poalim Investments, which at that time was a spin-off of a division of Bank Hapoalim; the largest bank in Israel, this investment company, Hapoalim Investments later on changed its name to Polar Investments. The other shareholders were Israel Chemicals, TMB and the founders. AHMSA Steel, which joined the company shareholders, in the beginning of 2005. , it's the largest integrated steel manufacturer in Mexico. At AqWise, AHMSA acts as an investment company.

IA: Okay. And, how many people does your company employ now?

Mr. Levy: Today, we employ 20 employees.

IA: Alright. And, what is your order backlog?

Mr. Levy: Our current order backlogged is above \$12 million.

IA: Excellent.

Mr. Levy: And we are already profitable.

IA: Okay. What are your company's main products? If you could just outline them and what needs they serve?

Mr. Levy: We focus on three main products:

The first one is upgrading municipal wastewater treatment plants. There are new regulations regarding the quality of the effluence that is produced by the wastewater treatment plants. These new regulations are applied in the U.S., Europe, and even in Israel. And they require adding to the existing biological process of a wastewater treatment plant, an additional biological process that removes nitrogen compounds. Nitrogen compounds act as a nutrient or a fertilizer for rivers, and promote a massive growth of algae in the river or in the sea. This kills the fish in the river or in the water body in a phenomenon called Eutrophication. That's why the regulations now require removing nitrogen compounds. When we add our process to an existing wastewater treatment plant, the existing plant that in the past couldn't remove nitrogen compounds, can do it without changes in the infrastructure of the plant. So that's one system that is upgrading municipal wastewater treatment plants.

The second system is for industrial wastewater treatment plants. Many industries have to make pre-treatment for the wastewater before releasing it to the municipal sewage system. Sometimes these are very large plants; independent and not connected to the municipal sewage system. I am talking about industries like food and beverage industries, paper industries, oil refineries, petrochemicals, steel. They need to build a wastewater treatment plant inside their plant. One of the features of our technology is a very small footprint for an industrial wastewater treatment plants, and a very stable biological process.

The third product is for fish farming, for Aquaculture, where we convert the open-cycle ponds into closed-cycle ponds. Open-cycle ponds require make-up water continuously, and they require a lot of fresh water to feed into the pond. And we are installing a system that is taking the polluted water out from the fish pond, purify them, and put it back into the pond. And, thus, the pond becomes a closed water cycle.

All these three technologies that I mentioned are based on the technology that we developed, that we call it the AGAR technology. AGAR stands for Attached Growth

Airlift Reactor. It's based on small plastic particles that are called 'biomass carriers', they are carrying the biomass that is doing the biological purification process. These biomass carriers are made of polyethylene. They have a very large surface area; this surface area is on one hand very open to all the sides, and on the other hand, very protected.

IA: What markets have you sold to in terms of geography? I know you mentioned South America. That's a big market.

Mr. Levy: There are already three installations that were sold by Siemens Water Technologies in North America. We have installations in Italy, in Switzerland, in Spain, in Mexico, Chile, and Brazil, and Israel, of course.

IA: Very good. What are your target markets for the future?

Mr. Levy: Well, we plan to strengthen our position in the U.S. and Canada through Siemens and to deeper penetration into Latin America. We focus now on Europe and also Eastern Europe, in the countries that recently joined the European Union. In 2008, we plan to expand to Southeast Asia, India, Thailand, and other countries on the Pacific Rim.

IA: Very good. And do you think your company will grow in the future financially?

Mr. Levy: Of course. So far, we maintain annual growth of over 100%, and we plan to exceed this growth.

IA: How would you compare your company's products and technology to its competitors?

Mr. Levy: Well, our main competitor is the conventional technology of wastewater treatment, called activated sludge. This technology requires a very wide footprint and large concrete basins. We use the biomass carriers; and we save the construction of the concrete basins. The construction cost is much and the process is very stable. Sometimes there are toxic shocks in wastewater, and the biological process must be resistant to such toxic shocks. The AGAR process is very resistant to these shocks. Besides, it's very flexible, in terms of future expansion. When new wastewater treatment plants are being built, there is uncertainty

regarding the future requirement for treatment capacity. Usually the consultants are doing an evaluation of the future growth of the population, which tends also to usually to create white elephants; very large wastewater treatment plants. What we are offering is 'use per demand'. We are building certain infrastructures to be able to accommodate future large flows, but the heart of the treatment process, is the biomass carriers, are added according to the demand. This allows flexibility; you don't have to be a fortuneteller to know what the future flow in 20 years will be. You have the flexibility to add the production capacity by adding biomass carriers when you need it in the future.

IA: Right. Are you working on any product enhancements or new products that you can talk about?

Mr. Levy: Sure. Our company has a very intensive R&D department, and we spend a lot of effort on development of new products. Right now we are involved in 18 R&D projects for new products. One product that just recently went out of the R&D lab and is now being commercially installed, combines the denitrification process with the clarification in the same unit; it's a post-denitrification process to remove nitrates. It's being done after the treatment, and it combines a biological denitrification with clarification without the need to add any chemicals or external carbon source for this process. It can also be used to upgrade existing conventional clarifiers into a hybrid clarifier that do both denitrification and clarification. This product is going to become very popular in the industry because it solves the problem of denitrification in conditions of scarcity of organic materials. We solved this need, and we believe it's going to be a very successful product.

IA: Why do you think Israel has been such a prime location for water technology companies like yours?

Mr. Levy: Israel is a model of a country that during its 59 years of existence put high focus on developing water technologies and solutions to solve the water scarcity we live in. Back in the '50's already, Israel designed and built the Trans Israel Water Tunnel that transfers potable water from the Sea of Galilee in the north to the Negev Desert in the south. This was a heroic project that was done in the first years of the young country. Later on, in the '70's and '80's, Israel built a central wastewater treatment plant for the Tel Aviv region, serving about 50% of the population in Israel.

The effluence of this wastewater treatment plant are being filtered in dunes that serve like a natural sand filter, and they are being pumped to the Negev Desert. These ideas develop a flourishing agriculture in a desert that used to be totally dry in the past. Added to these two national projects, are industries that serve the agriculture in water scarcity conditions, like the drip irrigation, that Netafim, Plastro and NaanDan, three large manufacturers of drip irrigation systems, developed and today are being sold worldwide very successfully. Filtration system and also water recycling systems like AqWise is doing in order to increase the amount of water available. I think that it starts from the philosophy, from the way of thinking. Worldwide, the reason for wastewater treatment is to solve the environmental problem caused by the wastewater. In Israel, it was always combined: not only to solve the environmental impact of wastewater, but also to reuse this water. In Israel, it's very natural, that wastewater should not be disposed to the river or to the sea. They are reusable. I think that this is one of the reasons that developed such a massive water industry here in Israel. On this, I have to add, the Israeli character of entrepreneurship, the ability to work in multi-disciplinary teams to illustrate and to have a free mind during the development, is very imperative in the first stages of developing a technology, and is one of the main reasons for technological achievements in Israel.

IA: Right. I have heard that, like in the .com revolution. That played a role as well.

Mr. Levy: Definitely, yes. I think that this spirit of entrepreneurship that was very massive during the .com revolution is now entering into the water technologies

segment in Israel. And we see more and more water start-ups that are being founded from one month to another.

IA: Are there any other issues you would like to discuss? Or anything you would like to add?

Mr. Levy: I think that a major part of the revolution that the water market is going through now is also evolution on the customer's side. We saw it also in the telecommunication revolution that took place in the early '90's, where telecommunication companies like Bell, for example, used to be very conservative. They used to use copper twisted wires that were connecting the homes, and everything was done for decades in the same manner. And then when the revolution of the communication, the digital communication, came in, they became very adaptive of new technologies. This is happening now in the water industry. Usually engineering firms, consultants, and end-users of the water and wastewater technologies, were very conservative and they were buying only technologies that were already in handbooks that were written 20 years ago. Now, they are more open to new technological ideas. They are being aware of the financial, the economical benefits of new technologies. They see that many technologies are helping them to reduce capital costs and the operation costs. It starts a revolution that will cause more and more new technologies to penetrate into the industry.

IA: Very good. It sounds like your company is doing very well. Thank you for your time.

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ILAN WILF is the President and CEO of Atlantium Technologies. Mr. Wilf spent the last eighteen years of his career working in the United States in the area of engineering, sales, marketing and management. His focus was in the water and wastewater treatment market for leading global technology providers. Among these, includes Hydranautics, a leading membrane provider; Degremont, a leader of water and waste water treatment technologies; and Tetra Tech, one of the largest consulting engineering firms in this field. Mr. Wilf holds a BS in Chemistry and an MBA in Technology management.

IA: Can you give me a basic overview of your company and your background?

MR. WILF: Atlantium was established in 2003. We have developed an extremely innovative water disinfection technology that combines the elements of physics, optics, and hydraulics into creating the ultimate solution in bacteria and virus inactivation. This technology is called Hydro Optic Disinfection – HOD. HOD is able to inactivate pathogens between 1000 to 100,000 times more efficient as compared to any other conventional disinfection technology. HOD is well suited for a multitude of industrial and municipal applications; basically, any application requiring water disinfection at the highest level.

Now as for myself - I have lived in the United States for the past 21 years and 18 of them have been in the water treatment industry. I've worked for several multi national, global reaching companies. Most of my career has been with companies that design, manufacture and market water and wastewater treatment technologies all over the world. In May 2006, I moved back to Israel to manage Atlantium.

IA: Who are the major shareholders of Atlantium?

MR. WILF: Atlantium is owned by two of the leading institutional investors in Israel. One of them is Elron, which is part of the IDB group; the largest consortium in Israel. The second main investor is the Kahn family. Morris and Benjie Kahn. Morris Kahn is the founder of Amdocs, which was sold to SBC, and he is surely one of the top business people in Israel.

IA: Where are your company headquarters and other offices?

MR. WILF: We are headquartered in Bet Shemesh, which is halfway between Tel Aviv and Jerusalem. We are 50 people right now and conduct business all over the world. We have sales offices in Shanghai, China, the U.S., and Sydney, Australia.

IA: Can you tell us about the company's growth so far and the key factors that led to its growth?

MR. WILF: As I said, the company was established

in 2003. It went out to market in 2006 and currently sells and markets technologies in over 20 countries. We mainly use distributors in the various countries. The distributors are focused mainly on the aquaculture, food and beverage industry as well as municipalities.

IA: How much money did you receive from the recently concluded funding round and how do you plan to utilize the proceeds?

MR. WILF: The total investment in the company has been close to \$30 million over the last three years and the last round was \$17 million. We plan to use the money to grow the company. We are spending a lot in R & D to complete our product portfolio as well as look at some new innovative applications that we're not currently in. We're also spending a lot of money on sales and marketing activities and promoting the technology by educating the marketplace and leveraging the current reference base that we have for future sales.

IA: What are your company's main products and what needs do they meet?

MR. WILF: The HOD technology is focused on water disinfection. The HOD centers on a UV light that shines into a chamber. Combining the elements of physics, optics and hydraulics, we are able to shine a light into a quartz chamber that, like a fiber optic line, reflects the light, creating a total internal reflection throughout the chamber, thereby achieving an very efficient uniform dose distribution through the chamber, penetrating the complete water flow and subsequently inactivating all bacteria in the water. Where conventional disinfection technologies reach 2-3 log inactivation, we have validated up to 9 log inactivation of various pathogens.

IA: How is the technology original and different from previous disinfectant products?

MR. WILF: Chlorination has been around for 100 years, Ozonation and UV have been around for the last 40 years. Using our unique and patented design attributes, Atlantium has created a new technology platform, exhibiting several main differences. First of all, we use the quartz sleeve so we use the process of total internal reflection and therefore we get very efficient inactivation. When you look at traditional conventional technology that gets between one to three log inactivation, we can get up to 9 log inactivation without any problem. Our lights are outside of the water so we have taken the light

source, the heat source out of the water and therefore removed any of the maintenance issues; which are, basically, deposits forming on the lamps to degrade them over time. We use very accurate and lamp-specific sensors that enable us to look through the water and look at the lamp; calibrate each other if water conditions change, ultimately, increasing or decrease the efficiency of the lamp, thereby keeping constant proven reactor performance.

IA: So basically your product allows changes to be made as changes occur in the water?

MR. WILF: That is one of the features, yes. The main feature is actually the ability to inactivate a tremendous amount of bacteria in the water. As I said before, 1 to 3 log with conventional UV; up to 9 log with our technology. It's not just times six. If you look at 1 to 3 log is between 90 to 99.9 %; we can inactivate 99.9999999% of all the bacteria. So for certain applications, like in the F & B industry where safety and quality are the main issues, this is a tremendous advantage.

IA: What markets have your company been most successful in selling its products to?

MR. WILF: We are currently focusing on several industrial applications, such as Aquaculture and F&B segments, as well as municipal markets. Aquaculture is the growing of fish in captivity; which accounts for about 40% of the total fish consumption worldwide. Fish are very susceptible to disease, to waterborne pathogens, much more than humans. We are able to provide tremendous value to most fish growers, and have been known to almost double the production of these facilities, realizing a 1 year Return on Investment proposition to our clients.

IA: How do you double the production of the fish industry?

MR. WILF: It is important to understand the process and assess where we can assist and where we fit. The idea is to eliminate the all of the antibiotics that the fish growers need to inject into the fish. We disinfect the water in such a way that all the harmful bacteria that attack the fish disappear and are inactivated. In various places, we have been able to double the production with the same amount of footprint and basically, give an ROI, a return on investment in about 6-12 months from various fish growers.

IA: What is your product going to do for municipalities?

MR. WILF: The main issue in municipalities is the disinfection of giardia and cryptosporidium. Those are the main pathogens that are feared today. They generally are introduced into the water through the waste of animals and things of that nature. Obviously we feel we can do that very well. The other technologies can do it as well, but as regulations tighten up and become more and more stringent; the advantage of our technology is that the technology that you buy from Atlantium today will be suited for the regulations of the next 20 to 25 years. The other thing is that because of the way that the technology is designed and because of the way that the sensors are implemented in the technology, one of the big issues with UV technology itself is that you don't know which lamp is working, how well and efficiently its working. We've solved that by putting two sensors next to each lamp. We also only have two lamps as opposed to multiple lamps so we know, at any given point, whether a lamp operates and how efficiently it operates. A municipality today will need to provide those kinds of reporting mechanisms in order to satisfy the regulators. Whereas other companies still need to implement those kind of features into their technology, and while they probably won't be able to do so successfully on a per lamp basis, we've already achieved that.

IA: Is your main target market now in the FirstWorld, as far as geography?

MR. WILF: We are mainly looking at First World countries, I would say.

IA: Do you think your technology could ever be used in developing countries?

MR. WILF: Of course, but the efforts required to market the technology in developing countries is quite significant. It could be used today very easily. It's just a matter of finding the right partners in those developing countries who are willing to talk to us.

IA: Why do you think your products and company have generated so much positive interest from investors and others in the field?

MR. WILF: Because it's the only true innovation of the last 40 years in the field. We not only can replace conventional UV, but we can replace, very easily, chlorination, ozonation, and heat pasteurization, which is the highest form of water sterilization. No other water disinfection technology in the world can do this.

IA: What type of products are you working on with Mekorot and how is that going?

MR. WILF: We're looking at their reduction of bio film formation in front of membranes and the tests have started and so far it is going well.

IA: What about revenues for 2006 and your growth forecast for this year and the next couple of years?

MR. WILF: Those are confidential but we're a few million dollars in 2006 and the anticipation is, I would say, substantial amount of growth; tens of millions in the coming years.

IA: Can you talk a little bit about the product enhancement and the new products you're working on?

MR. WILF: We're constantly looking at new applications, but so far these are confidential.

IA: Are you working on any other partnerships with large companies besides Mekorot?

MR. WILF: We are, possibly, discussing with some of the leading companies in the business and there are several avenues that we're exploring but I can't elaborate on the names of the companies.

IA: Thank you very much for your time today.

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RAPHAEL SEMIAT is a professor in the Chemical Engineering Department, Technion, Israel Institute of Technology, Haifa, Israel. Dr. Semiat is currently the director of the Grand Water research Institute and in charge of the Rabin Desalination Laboratory within the GWRI. Dr. Semiat obtained his B.Sc. degree in Chemical Engineering from the Technion in 1973, defended his D.Sc. dissertation on MED Desalination in Jan 1978 at the Technion and spent two years as a postdoctoral fellow on 'Two Phase Flow' and 'Nuclear Safety' at the University of Houston, Texas. On returning to Israel, Dr. Semiat joined IMI (TAMI), a Research and Development Co., and a subsidiary of Israel Chemicals Ltd, where he served as a senior research engineer and as the head of the Heat and Mass Transfer Engineering Research Department. Dr. Semiat joined the Chemical Engineering Department in 1989. His main research interests are: Process Development; Separation Processes with emphasis on Desalination, Solvent Extraction and other subjects. Of particular relevance are the research subjects associated with membranes processes and membrane fouling prevention. He is also involved with Electro-Optical measurement techniques in multi phase flow. Dr. Semiat supervises several Ph.D. and M.Sc. students in the above areas. Dr. Semiat has published over than seventy papers in scientific journals and similar number in conference proceedings. Most of his current research subjects are associated with the Israeli industry. Dr. Semiat is a member of numerous societies, including; American Water Works association (AWWA), International Water Assocoation (IDA), European Desalination Society (EDS), Israel Institue of Chemical Engineerring (IIChE), and Israel Desalination Society (IDS)

IA: Dr. Semiat, what would you say are the most important new water technologies in Israel that are close to becoming commercialized?

Dr. Semiat: The most important and also a new one is a new UV technique, which is a product of a new company by the name of Atlantium.

IA: Oh yes, I have heard of this during my research.

Dr. Semiat: This is very interesting project since they are using much higher energy, UV energy, in one or two tubes, which are outside the flow, not inside the flow like the other systems. And they can, according to what they say they can apply very high light intensity so they can kill, much better, the bacteria, and also check, and they do check all the time, what the level of energy that they supply to the system is. And this seems to be a much better much better UV system than all the others on the market. It looks very promising.

IA: Is it more efficient because it kills more bacteria, or because it's cheaper? Or perhaps both?

Dr. Semiat: Because, well, first of all, it kills almost all bacteria. Then the best thing is that regular UV systems are based on many tubes, which are located in parallel inside the water. If one of them goes wrong, the operator usually don't know. If a few of them goes wrong, you'll not know because you cannot monitor and detect the emission of each one of the tubes in the system the emission of each one of them. Every tube is located behind a few other tubes. So, you cannot detect the emission of every one of them and measure exactly what happens around them in the water. But in this technique, you have the tubes outside the systems. And you can measure the emission in different locations to find out what is the intensity of light, and this way you can monitor the quality of operation. You can detect if something goes wrong way before there is any kind of deterioration in the operation of the system.

IA: Okay. Are there any technologies that are two or three years from being commercialized that look promising?

Dr. Semiat: Well, there are others. There are others. There is a company that deals with a new, better technique for bioreactors for treatment of sewage water. I mean better ways to introduce oxygen to the system and to circulate the bacteria in the reactor. And there are new improvements on desalination. Well since the idea that water, and water technologies are very important, many people are moving into this area. And there are new start ups of different ideas. I don't know exactly which one of them will survive, but for sure there is a lot of work being done in this direction.

IA: Why did it suddenly become so important and popular to work in those areas?

Dr. Semiat: Well, it should have been before, I think. It takes a lot of time until people know exactly what's happening. People start to realize that there are, in fact, problems in the world. I mean most of the people are talking about energy and environmental issues, but usually didn't talk about water issues. And apparently suddenly we know that between one to two billion people do not have access to good quality of water in the world. Those people also do not have electricity. On the other hand, they have access usually to satellite T.V.

IA: Interesting.

Dr. Semiat: So, they know exactly what happens. And this is going to be the source of the new problems, if not already. And, El-Qaeda and these types of groups are coming from poverty and from people that realize that they live in poverty and there are other ways of life. Right now, they know that the rest of the world is living much better. And the question is if we are going to do something or not. That is, I mean, the question that the world has to ask. And, well, energy is one big issue. And we are talking all the time about the global warming.

IA: Right.

Dr. Semiat: We have to realize that one of the main problems associated that emerges from that is not only that the level of the sea will increase. If that will happen, the aquifers will be deteriorated. All the aquifers of the shores will be deteriorated because of penetration of sea water into the aquifers will increase significantly. So those nations who live on aquifer waters, not on rivers, or surface waters, those are going to suffer the most. And they have to provide solutions. I don't know if this is known so far. People don't realize that.

IA: And that's where desalination would come in, right?

Dr. Semiat: Yes. This is a solution. Well, one of the solutions is desalination. The other one, which is very important, well, it's also considered desalination already, is waste water treatment. We need to treat the waste water because if we don't do that, it pollutes our environment. And not in all places we do that. In Israel, we are close to 100% wastewater treatment and we are using about 60-65% of it for irrigation, for agriculture uses. And in other places in the world, people are starting to recycle. In fact, they are doing that in Europe. In Europe, they recycle waste water and resell it for the cost of three euros per cubic meter.

IA: So, it sounds like the markets are both in the developing world and the developed world.

Dr. Semiat: Oh, yeah. There are two markets, definitely, two different markets. But, I mean, it's important to pay attention to the two of them. While there is on one hand the rich market, the Europeans, the Americans, people that are not afraid to pay for, like the Europeans, three euros per cubic meter, even that this is

treated waste water. And on the other hand, you have all the people that never paid for water. They cannot afford to pay half a dollar or forty euro cents per cubic meter, like sea water desalination. And sometimes they are dying because they don't have the knowledge, how to pump water from the nearby river, which is 150 meters from where they grow their crops. So, this is the poor market that has to be improved. I mean those people deserve also to live properly. The question is how we are going to deal with these two markets is the big issue. I don't know, but we have to. I mean, it's easier, of course, to deal with the rich markets, which also look for other solutions like quality of water, issues of homeland security and so on. And they are ready to pay for that. But for the poor people, it's not enough to supply them water. You have to teach them how to make good use of the water. And, even this is not enough because we are talking about close to two billion people. Even if they will make, much better use for water and will improve the agriculture system what they will do with the product?

IA: Right. If they can't use the product, there's not much use to it.

Dr. Semiat: Well, they can consume it; but not more than that. So the improvement is not much. There is a big issue here that the people that cannot grow properly their crops, not only need water but need much better education in order join the real world as fast as possible. But there is no simple solution. This is very complicated situation.

IA: I know you touched on it a little bit but what advances have you seen in desalination and nanotechnology in Israel for water technology?

Dr. Semiat: Well, it's only the beginning; but people are trying to work on new solutions. For example, there are new membranes under investigation that might in the future improve the desalination processes. We know already even that in the last few years, the companies that manufacture the membranes have made a big significant improvement of the membranes. But this is not enough, and we think that there is a lot to do in this direction. And if we improve the membranes, we also reduce the cost of energy needed for desalination. It will reduce the cost of equipment because we don't need so high pressure equipment. We can reduce the pressure a little bit. So, there are no revolutions there, but there is an evolution, step-by-step. This is one subject. The other subject is a better solution for removal of boron,

for example, which is very important issue. And from here possible removal of other constituent in water which are problematic, like arsenic, like on the other side, the silica. Silica is not dangerous, but it usually reduces the ability to desalinate brackish water.

IA: Do you think nanotechnology will be important?

Dr. Semiat: Yes, it's very important. You see, nanotechnology brings us new tools that we didn't have before. I mean new microscopes and new devices that we can measure particle size and identify particle that earlier we didn't consider as particles, or we didn't know how to deal with it. There are many issues here, for example, the holes in the different types of membranes are below what we call the nano range. The denser membranes passages are even smaller than that. RO membranes don't have real holes in them, and water is penetrating and dissolved in the polymeric material. But then you have the nanomembranes, the nanofiltration membranes, which have holes in the size of one or two nanometers. And we have what we call the ultra filtration membranes, which are very useful in waste water treatment, in bioreactors and so forth, and their holes are below 100 nanometer. And if you refer to what is called nanometer; nanotechnology is considered below 100 nanometers. This is the attempt to reduce the size of the lines in microelectronic devices. So, we are there with our membranes. And we have to improve the membranes by improving the size distribution of the holes, because right now we have very wide distribution. If we know to get a narrow size distribution, we can improve this operation significantly. We can increase the void fraction, I mean, the open area through the membrane. That means to increase the flux through the membrane and reduce operating pressure and energy. Another issue is using nano particles as catalysts for removal of organic matter from contaminated water.

IA: And that would prevent more bacteria from going through?

Dr. Semiat: Bacteria are in the range of a few microns. Proper choice of membrane can remove all bacteria, if a proper process is used. Reduction of the membranes size is needed.

IA: And it would reduce costs.

Dr. Semiat: Yes. That, of course, would reduce costs.

And there are other issues as well. You see, there are problems associated with fouling of the membrane. The main problem in desalination is the fouling, accumulation of solids on the surface that blocks a membrane, or precipitation of salts on the membrane's area, or growing bacteria on organic matter that's accumulated there. You see, one of the problems with treated sewage water, if you really want to treat it properly and to use the best, smallest membrane, which is not so expensive on sewage water because the salt content is quite low, but you would like to remove most of the organic matter. And we would like to remove some of the salts. So, we have to do that. But then we usually find a problem with phosphate in the water. Phosphate tends to precipitate right away on the membrane. And we have to prevent that on one hand. And on the other hand, we cannot send it to the sea or to any other alternate sink. We cannot send to the sea phosphates or nitrates because then we pollute the sea.

IA: So, are Israelis making any strides towards solving these problems?

Dr. Semiat: We are trying to do it in the Nancy and Stephen Grand water Research Institute – a national institute located at the Technion. We are not alone in the task. We have a few universities that are trying to work now in more power on this, in this area. Well, again, it's, only the beginning. You see, we established recently what we called Waterfronts, this and NGO, non-governmental organization.

IA: Oh, right. I've read about that.

Dr. Semiat: You have read about it? Okay. This is a very important organization because it helps to bring more money for research and for new start-ups in this field. And it will increase the interest of many organizations in water issues. This is important because this will bring more people to work on those subjects and probably we'll have more solutions. But currently, I mean, at the very beginning, when everyone is hesitating except for the universities which are running into the subject, the hesitation from the government and from other sources to put money into this business still exists. We still don't have enough, as we would like to have, enough funds to do what we have to do.

IA: But do you think going forward, Israel will play a large role in solving some of the problems?

Dr. Semiat: We sure hope so. We sure hope so. You

see, it's not only desalination. Well, currently the main role of Israel in the market, in the water market, is the special type of drip irrigation that we have developed. Are you familiar with that?

IA: Yes, I have read about that, as well.

Dr. Semiat: Okay. This is, currently the biggest water product from Israel, the biggest field. I mean the biggest market where we can penetrate. Based on the success of IDE in the Ashkelon plant, we hope that Israel export in desalination will also grow since it is growing all over the world. And, hopefully, the Israeli companies will manage to build more and more of this type of plant in other places, which is important.

IA: I have read about India being a possible market for IDE.

Dr. Semiat: Yes, but this is still a small market relatively. Well, for IDE at the moment. India is a huge market; we need to penetrate. But at the moment, IDE sells mainly evaporation units and, hopefully, a unit for, a plant for Reverse Osmosis. But I don't know all the details at the moment. Hopefully, they will be able to sell that as well. And, increase their capacity.

IA: But it seems like the desalination and the filtration have higher potential for growth than the drip irrigation at this point.

Dr. Semiat: Well, I don't know. Drip irrigation, is only at the beginning, I think.

IA: Really?

Dr. Semiat: You see, drip irrigation, especially under the ground, is very important for places where you have high evaporation, so you don't lose much water. You can use drip sewage water in a more safely way because you drip it under the ground and not on the ground. And this is important if you have, if the quality of the drip of the water is not good enough. So that can be used in many places this way. And the market, I think, is growing, is growing significantly. So, this will continue to grow probably. Desalination as well; filtration as well; maybe the UV technique will grow; and, hopefully, some others.

IA: So, why do you think Israel has been such a fertile ground for the development of water technology?

Dr. Semiat: Well, there are a few reasons for that. First of all, the main reason is the need for water. For many years, we have been using more than we get by nature. We are lucky from time to time that we have a good year with plenty of rain, like the years that I can tell you about are 1992 and 2002. These were two good years that brought us to relatively good levels; relatively but not enough.

IA: I was there during the water shortage in 1999-2000 when everybody was worried about it.

Dr. Semiat: Yeah, that was a very, very difficult time. And that's what convinced the government to start to pay attention to that, to start to invest in desalination. The government is not investing in desalination; but the companies are and we, the citizens are paying the cost. The government is only transferring the money from one place to another. But, the important point is that the government accepted that we need desalinated water. And, they supported the movement. And this is important. Now, we are a very small country, but we have plenty of problems of all kind. For example, we have different sources of water, what we call surface water from Lake of Galilee on one hand. Aquifer waters that in many places are polluted agriculturally polluted, for example, nitrate or this kind of pollution. We have pollution from the time we didn't properly use the sewage system. We have to reuse sewage system because we don't have enough water. We have the desert on one hand; and, fortunately, we have the City of Eilat that used to be our laboratory, national laboratory for desalination. The City of Eilat is living on desalinated water for many years. Close to 90% of the city water consumption comes from desalinated water.

IA: How long has that been?

Dr. Semiat: From the early 1980's, I guess, or even before.

IA: Wow.

Dr. Semiat: During the years we tried many types of desalination plants in Eilat – operation techniques, filtering techniques, different evaporation types, etc. Then, lately, for the last 20 years Mekorot, our national water company started with membranes and this was a success. We started with brackish water desalination, and we moved when we did not have enough. We didn't have enough brackish water. We moved to sea water

desalination, and we are desalinating now the water of the Red Sea.

In parallel we have also helped our neighbors. I mean, we have to supply not only to ourselves, we also supply water to the Jordanians. We send them every year 50 million cubic meters from the Jordan River. We give the Palestinians plenty of water. You see, according to the Oslo Agreement, we agreed to give them 45 million cubic meters per year. But because of their needs, they ask for more, and they got more. So right now, we give them about 65 million cm. I am not exact on this number, but close to 65 million cubic meters per year. And I am saying giving because they don't pay for it.

IA: Right. And Jordan was in the Jordanian Treaty that ...

Dr. Semiat: Yes.

IA: Israel has to give water in.

Dr. Semiat: Yes. You see this is very important subject because people are talking about water as being the next reason, the reason for war in the Middle East. And I want to tell you a few things here. First of all, we are giving water to the Palestinians, and they don't pay for it. Well, the Jordanian pay; not the Palestinians. Three years ago, the Hezbollah blocked the Wasani River just to punish us, by blocking the Wasani River; they prevent 30 million cubic meters from flowing down to the Lake of Galilee. It used to be a reason for war in the past. They could have used the water of the Litani River, which is nearby, and send its water to the Mediterranean. But they wanted to do it this way. It's a very important issue because in the past, in the '60's, the government of Israel used to fight because of that, to fight and destroy the all what the Syrian and the Jordanian built at that time.

IA: Right.

Dr. Semiat: But, three years ago, the government of Sharon, didn't do anything about that – not because they couldn't do it, but they saw that 30 billion cubic meters, in terms of sweater desalination, is \$15 million,. And less if we are talking about brackish water desalination. So, this is not a reason for war.

IA: Right.

Dr. Semiat: But more than that; if we are going

to supply partly of the full needs of Jordanian and Palestinian. And I'm talking about a growing need. That's if we expect that in the future the level of living of the Palestinians will improve so they'll probably consume more water. So if they will use water the same way that we are using it in Israel, the Palestinian and Jordanian together will need about 400 million cubic meters per year, more than they consume at the moment. So, again, the cost of 400 million cubic meters is of the order of \$200 million. We don't have to pay all of it. But if we pay part of it and then control part of it, this is a way to peace – not a way to war.

IA: Right. That makes sense.

Dr. Semiat: So, this is very important subject.

IA: Thank you for your time Dr. Semiat. Do you have anything to add before we close?

Dr. Semiat: Not at this time, thank you very much.

IA: Thank you.

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RAPHAEL NEVO is head of the water technology investments group at the ATI incubator in cooperation with Mekorot, the national Israeli water company. Mr. Nevo acts as CEO of two ATI water companies: EnGibton and Aquilyzer. Previously Mr. Nevo was the founder & CEO of Treatec21 Industries Ltd. specializing in advanced water purification systems. Mr. Nevo acted as CEO in various companies such as Channel Storm Ltd.; M. Dorsman Asset Management Company of the Arison group and Gamda Trading Ltd., a daughter company of Koor Industries. Mr. Nevo was in charge of the water quality section at the national environmental protection ministry. Mr. Nevo holds several public roles, which include;

- Director and member of the investment committee at the “Hezneq” government fund
- Member of the environmental technologies and infrastructure branch at the Israeli Export Institute
- Member of the national plan of promoting Israeli water technology worldwide
- Member of Waterfronts, the Israel Water Alliance
- Member of the Israeli Water Association (AWA)

Mr. Nevo holds a graduate degree in water quality from the science and technology faculty as well as an MBA, both from the Hebrew University.

IA: Can you explain the history of your company EN GIBTON?

Mr. Nevo: The Company started as an investment project at the Department of Water & Soil Science in the University of Jerusalem and the Campus of Agriculture in Rehovot. It was established because we discovered a need to solve some problems of taking out or removing organic and inorganic contaminants from water while they are in a dissolved form. If you have all kinds of solvents and herbicides that are leaking out from industrial processes and manufacturing units, including chemical industries and metal industries, and even military industries, then somehow these pollutants, which do not break down on the way, reach ground

water.

IA: We'll get into more questions about the product a little bit later, but how has the company grown since it was started? How much has the company grown?

Mr. Nevo: The Company started as Technological Incubator Project Company supported by the Chief Scientist Office Fund at the Ministry of Industry, Trade and Labor.

IA: You got grants from the Chief Scientist Fund, right?

Mr. Nevo: Yes, that's right, through the Ashkelon technological incubator. And it helps investors, entrepreneur projects to stand on their own legs, on their own feet. Within a period of two years, and the funding of 300 thousand dollars, if the company succeeds and finds first round and second round investments and, of course, starts succeeding in producing a commercial product after many trials of prototypes, then the success is measured by its ability to return some royalties to the government. But if it doesn't succeed, then this is converted into a grant.

IA: You're just in the initial stages, it sounds like, of developing your product? ...

Mr. Nevo: Yes. This is one company that I am involved with. This company is a member of water project companies within a cluster, which I initiated. This is some kind of cooperation between a private equity fund and a technological incubator. And on that basis, we invest and we help and we coach new entrepreneurs from all water-related technologies come in and get the right help they need. Sometimes it's only the Chief Scientist Fund; sometimes, when it's more mature, we help them by supporting in developing prototypes with special subcontractors we are connected with to reach a prototype. We invest in them the first round or seed money; and then we raise some more money from new investors who come in as partners of the fund. And that's how we create a water cluster. We have now, right now, with us six companies, including the company that I described in the beginning.

IA: What's the name of the fund?

Mr. Nevo: The fund is called the BHCO Group.

IA: And how much has the fund invested in En Gibton so far? Can you disclose that??

Mr. Nevo: The first company, the total investments up to now, about \$700,000. That's both the state fund and the BHCO fund, and this is sufficient for about two years of operation.

IA: How many people does Ein Gibton employ now?

Mr. Nevo: Ein Gibton currently employs six people, with an additional five subcontractors.

IA: You started to talk about the company's products. What are the company's main products in more detail? And what needs do you think they'll meet in the market?

Mr. Nevo: The main products are two. They are based on technology of clay. Clay has the capability of absorbing dissolved molecules from water. We created some kind of a complex based on the clay that is able to do a much better job in absorbing contaminants than what activated carbon is doing right now or ion exchangers are doing. This, of course, is meeting the demand of being competitive in price per cubic meter of water treatment price.

IA: So it's cheaper than competitor's products?

Mr. Nevo: It's cheaper than competitors such as activated carbon technology, ozone treatment, ultra violet treatment, or ion exchanger treatment. Filtration membranes need pretreatment of the water before being able to filter them; otherwise there will be bio-fouling or just fouling that will reduce membrane efficiency. They will be damaged by chemicals etc.

IA: What are your target markets for the future in terms of geography, and in terms of industry?

Mr. Nevo: The target markets for the future are both developed and developing markets. We sell first to the United States, and second to the European Union and especially the newcomers to the European Union countries. The third one is the Far East, China. And the fourth probably will be Australia, because Australia faces water problems, shortage and contamination.

IA: Why do you think that the other markets you mentioned are good markets? The U.S., China, why are those good markets?

Mr. Nevo: China is developing, and its water industry, its water market is developing at the rate of about 15% a year.

IA: You would sell the product to water companies?

Mr. Nevo: To water treatment equipment companies, project companies, to municipalities, and to industrial plants.

IA: Did you have any sales revenue from 2006?

Mr. Nevo: Not much, because this is a company that started its operations two years ago.

IA: When do you think you'll start getting substantial revenues?

Mr. Nevo: Within three months. We have a special feature of our product. I think it's the only one in the world that is able to remove a contaminant named perchlorate. Perchlorate is a contaminant that emerges from military industries and producing rockets, because it's inside the rocket solid fuel and inside fireworks industry. To my knowledge, there is no other treatment method capable of removing perchlorate.

IA: Why do you think Israel is such a prime location for water technology companies?

Mr. Nevo: Because of, two reasons mainly. One is historical, and the achievements in agriculture technology connected with water savings. The solution we managed to find is one good base, a reputation that helps us do the other thing. And this is to develop cutting edge technologies for managing water systems and improve the efficiency of water cycle. You can find

the same water being reused two, three, and maybe four times over a year period,

Mr. Nevo: And this is thanks to good technologies, which in some other places of the world, they're too slow in progress of water technology development

IA: Why do filtration companies, like yours, have a bright future? Why are their markets going to grow, in general?

Mr. Nevo: Because that's connected to my previous answer. This is the ability to re produce water by recycling it.

IA: Before we wrap things up, do you have anything else you would like to add?

Mr. Nevo: I would say that it's good to focus, to put some focus on the investment company, because this one is a special group that is able to take entrepreneurs and to lead them especially in the water area. This is unique because others hardly know how to do that way and really don't do it in Israel. This is some kind of a combination between a fund and an incubator only for water

IA: Thank you very much for your time.

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IA: And, how many people does your company employ? Would you be able to disclose its approximate revenues for last year?

Ms. Noti: We are private so our revenue is not disclosed. However, we are in the double digit USD millions. As for people, we are about 160 worldwide, with about 100 in Israel. About half of those will be throughout Israel. Most of the staff is involved in product development, engineering, manufacturing. There is a, relatively, small group of people in sales, marketing and administration.

IA: And, who has funded your company as far as venture capital or investors?

Ms. Noti: It was bootstrapped solely by the two owners who continue to have complete ownership of the company.

IA: What are your company's main products? What needs do they meet?

Ms. Noti: The main products are what would be called water treatment and filtration systems primarily for industry, the public sector and agriculture. In industry, for instance, semiconductor manufacturers use water as an integral part of their production. They have a need to treat the water used in the production process both for the quality regulation of its eventual disposal and, importantly and hopefully to be able to recycle and use that water again. Our systems will filter and clean or treat the water to the extent that makes recycling possible and disposal compliant with all regulations. For the public sector, we provide water treatment solutions for domestic/drinking water- that is, water that is used by the population for drinking, washing, cleaning etc. -- all purposes except toilet use. In that area, we're primarily in municipalities and regions. We are currently involved in several projects of this type in Central America. We tend to fit in the mid-range project area of towns, communities, resorts, hotels etc. As for agriculture, we filter and treat the irrigating water for crops of all kinds- flowers, vegetables, grains, etc.

IA: What do you consider to be your biggest markets?

Ms. Noti: One of our biggest markets is domestic/drinking water projects for mid-sized communities, regions and hotels and resorts. That would be one of

our biggest markets. And, along with that, a second large market would be the treatment and recycling of industrial process water such as that which comes from steel mills or pharmaceutical plants.

IA: What about markets in terms of geography? What areas of the world have you been most successful in selling your products to?

Ms. Noti: We've been quite successful, actually, in China, which we have been in for over six years. We have also had significant success in Africa, mostly in the area of South and southern Africa. In addition, we have had noteworthy success in Mexico, Central America, and in a swath of the South America reaching to Argentina. In all the geographic areas, the countries where we have been most successful are those with the most acute need for the treatment, whether it's the drinking/domestic water treatment for more rural areas of population or upgrading existing infrastructure or where higher standards of resource protection (and higher cost) are propelling industry to seek solutions for water treatment.

IA: What kind of projects have you done in China? And, do you see a lot of growth opportunities there in the future?

Ms. Noti: China is an extremely interesting market. I think it's a mixed bag. We have been very successful in two vertical industries in China – the steel mill industry and pharmaceutical production industry. In addition, with the upcoming Olympics and China's interest in the WTO etc, they have put money and effort into all of their pollution issues, including water. I would say, however, that growth in China is tricky. We see growth in our revenues and activity in China. But what has changed in the past couple of years is, (and this is not news, necessarily, it is known from other industries), that one really has to be prepared to do local manufacturing in China. Five years ago you could manufacture outside of China, ship to China, and still make your margins. But, China has gotten very good at internal competition, at being able to, I would say, replicate technology in higher quality product than previously. And the cost of production is far lower than other countries as we know. So, the requirement for staying current in China means you've got to be present there, you've got to be manufacturing there, and you've got to stay very price competitive. It is obviously an enormous country and arguably the world's largest market. Frankly, one

would have to be a total fool to say China doesn't have opportunities. But, it comes with certain stipulations. You also must be working with Chinese staff in China. I think some countries have been slow to recognize that.

IA: What are your other target markets for the future?

Ms. Noti: We are looking at a number of water treatment projects in the US and part of our future plans involve more activity in the US. We are, in particular, looking at industry water and wastewater treatment. We are also putting more emphasis than ever in Central America. And of course, as I mentioned earlier, we have significant activity and prospects in Southern Africa. What we're seeing is that places like Mozambique; Botswana; Swaziland; and in Central America, Honduras, Dominican Republic, and in fact, some of the Caribbean, the governments are really, one after the other, putting into place initiatives that come under the heading of something like "Clean Water Act" or "Water for Everyone Act". Add to that the projects of the U.N. and any one of many NGO's which are currently funding a big push towards getting appropriate quality water to the people throughout these same countries. All of those opportunities are strategic for us.

Let me add here, that one of the things we offer which is highly useful and attractive for developing countries is a really good containerized water treatment system. This is a ready-to-go, turnkey water treatment system, completely housed in a 20-foot or 40-foot ISO standard container. The container is easily transported by truck and once the container is on the ground, so to speak, it's ready to go with a couple of hookups to the water source, etc. We're finding our "containerized" domestic/drinking water systems to be quite popular around the world, as well as our containerized/mobile wastewater treatment system.

IA: Is that particularly good for developing countries?

Ms. Noti: Yes, it is. These containerized water or wastewater treatment systems are quickly and easily up and running. There is no "commissioning" or installation per se. The maintenance requirements are low. The system is well-housed and protected from the elements. The skill level of the person to maintain it or operate it can be fairly minimal. And, if you want to, you can pick the thing up and move it on the back of a flatbed truck.

So that in an emergency you've got something that you can take to an emergency situation. We find it an exciting and growing market. We believe you will be seeing more "containerization".

IA: Where do you see the company going in the future from a financial perspective?

Ms. Noti: I think the next five years are going to see, (given the caveat that there are things that we don't control such as the world economy, etc.) fairly rapid growth. I think we will see gains of hefty percentages each year in revenue and profit and that in five years the company will have certainly made multiples of where it is now in terms of size, of staff, revenue, etc. And, who knows?

IA: Are you profitable now?

Ms. Noti: Yes we are and have been for almost all of the history of the company.

IA: How would you compare your company's products to those of its competitors?

Ms. Noti: In this industry the distinction comes in several areas. There are technical distinctions, for instance, the kind of filter you use. There are disk filters. There are screen filters. And so, we would at a technical level distinguish ourselves with our use of screen filter, which has certain advantages. But, beyond that, (and I think that kind of becomes less and less of something that you can really talk to the customers executive staff about), it really has to do with the quality, modularity and flexibility of the system. How you can take a series of components, and how quickly you can manufacture them. How quickly you can get them on site. And, yet, still allow for the fact that the quality of water varies everywhere you go. And so, for instance, if you have a container or not a container, even if you're on a skid, you need to be able to add a particular piece of technology to do additional treatment; or, you need to be able to add some kind of disinfection unit. That's something that we have; modularity and flexibility. And, we also have mid-level, mid-sized company advantages, not too big to turn around and do something on the spot, not so small that we're going away or can't handle custom situations or larger projects. In addition, I think the manufacturing quality is top notch. We just don't produce with defects. We pay attention to quality when, if I can say outside the U.S., it may not have had, or outside certain countries,

it may not have had the same kind of ranking as it did in the U.S. But, we've always done that. And, all the staff is trained professionals. I think that's another distinction.

IA: Are you working on any new products, or product enhancements, that you can talk about?

Ms. Noti: I am unable to speak about current product developments at this time. You may want to check back with us in a couple of months, and we might be able to. We work in conjunction with academic and research institutions and organizations in Israel that have very strong focus on research. So, what happens, especially because of the size of the country, is there's a strong relationship between academia and the advances that are made in academia, in research, etc., and what comes through the commercial sector. There's not a huge compartment problem with all of that. So, not only do we work on our own products, but we have access to research in these institutions and organizations. Think, for example, about desalination. Israel's become known for it. So, that kind of advance was really something that happened between industry, academia, the army, everybody. I think the thrust of some of what's happening now is to get more what we used to call in high-tech "bang for the buck". In other words, be able to go in and do better filtration and better treatment, adjusting to local conditions and standards. The system may be in a container or not but it needs to be able to be quickly operational and to adjust to what may be changing environmental conditions. I think that's among the factors that are important.

IA: Why do you think Israel has been such a prime location for the development of companies in water technology?

Ms. Noti: Because there wasn't enough water from the beginning. It's really need driven. When people came back and resettled here, let's give it 100 years ago, 130 years ago, one of the key challenges they faced was having water. And let's face it; it has been a historical and present day issue for the whole Mid East. I mean, water is what it's about in the Mid East. They talk about oil all the time in the news, but getting water is the real issue. This country was primarily swamp or desert, and much of the ingenuity of the people who came went towards the fact that in order for the country to grow and flourish, it had to be able to deliver water to its people. So, in agriculture initially I would say, and then in terms of using water for populations in urban areas, etc. It has

been a life or death issue for Israel. So, it grew out of that; and, once that happens, you get a follow-on effect of the issue being "institutionalized", that is, made a part of the academic, research and business infrastructure of the country. You have institutions that have specialties in it. And you get people who train in it. And then we get professors who teach it. So, it begins to take on a life of its own as an area where kids say, "Well, that's what I want to do when I grow up," which is not necessarily true for a lot of other countries. Every day in this country, you deal with the issue of water. It's just around you; it's part of your life.

IA: Why do you think water technology companies in general have a bright future in the world?

Ms. Noti: Because it is a fundamental requirement of human existence. In effect, while we say we can't live without oil, one could say that you don't have to have oil to literally be alive. You have to have water to literally be alive. Resources are not expanding at the rate of population growth and demand and water is not an infinite resource. That means that we must treat, clean and recycle the water we have. What we have is finite supplies of water and increasing demand. And that equation alone tells you that there is a market.

IA: That makes sense.

Ms. Noti: If you look around, and can recognize the distinctions, you can make the correlation between the ability of, what we call, developing countries to make economic and health gains and water. If you can keep your population healthy and not having to fight disease and they have what's called water and food security, you make vast differences. And so, we see the "right" or need for clean water and water treatment as a mandate across the board from places like Pakistan to let's say Mozambique, Mongolia.

IA: Are there any other issues you'd like to discuss? Anything you'd like to add?

Ms. Noti: No, just that I really believe that water is going to be what we are going to fight about. I mean, we talk about country boundaries and all of that, but I don't think it's hyperbole to say we'll probably have conflicts, more visible than in the past over the use and the access to water within the next couple of decades.

IA: Thank you very much for your time.

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YAMIT FILTRATION AND WATER TREATMENT

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