



The Center for Innovative Water Technologies

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Table of Contents

- 1 Executive Summary
- 2 Introduction
- 3 Water Crisis Fundamentals
- 4 Opportunity
- 5 The Center for Innovative Water Technologies
- 11 References

Executive Summary

The Center for Innovative Water Technologies (CIWT) mission is to **catalyze and enable focused development** of a new wave of technology solutions, businesses, and public policy to improve the management of worldwide drinking water, wastewater, and coastal water resources.

The nonprofit CIWT comprises **three major components**: A water technology innovation accelerator, technology validation and certification sites, and a center for water sciences education and public policy.

The CIWT is **strategically located** in Woods Hole (Cape Cod), Massachusetts to provide entrepreneurs and water technology innovators access to the region's exceptional range of natural water resources, world-leading marine-ecology-engineering research institutions and expertise, and the critical water-technology testing infrastructure needed to advance innovation.

The CIWT is assembling an interdisciplinary team of **leading water experts** from the realms of academia; industry; the investment community; entrepreneurship; and federal, state, and local government to guide the programs and initiatives of the CIWT.

To address the dearth of early-stage funding for water technology commercial innovation, the CIWT has proposed the establishment of an independent **water technology investment fund** that would provide seed capital to support of proof-of-principle studies for new water-related technologies and company formation.

The CIWT was established in May 2011 and currently seeks **initial funding** to finalize and implement the strategic operating plan

The gathering of regional stakeholders and national experts met against a backdrop of growing concern about the deteriorating state of water resources on Cape Cod and southern New England.

Pivotal discussions at the meeting focused on technology pipeline sourcing and potential, water market technology needs, and availability of investment capital and experienced entrepreneurs.

Introduction

On Tuesday, April 5, 2011, a group of senior-level business leaders, scientists, investors, and government administrators assembled at the Marine Biological Laboratory (MBL) in Woods Hole, Massachusetts to discuss the potential creation of a pioneering organization that would be dedicated to catalyzing effective solutions to burgeoning local and global water management challenges.

Convened at the invitation of the Regional Technology Development Corporation (RTDC) of Cape Cod, the gathering of regional stakeholders and national experts met against a backdrop of growing concern about the deteriorating state of water resources on Cape Cod and southern New England. The Cape's expanding water management crisis had spurred the Cape Cod Commission (CCC), a regional planning group, to develop a comprehensive Wastewater Management Plan to establish tough new standards for wastewater disposal by Cape Cod residents and businesses and to plan how to extend the Cape's existing wastewater infrastructure to contend with its ever-increasing sewage volume.

In its quest to identify near-term, innovative, and cost-effective solutions to the Cape's water management challenges, the CCC engaged IBM's Big Green Innovations division to assist with the establishment of a "smart grid" water management network for advanced sensor-based electronic monitoring of water resources and wastewater. The proposed system would incorporate sensing, networking, data management, and data analysis technologies to track a wide array of information related to water quality.

The April 5 meeting at MBL generated leading-edge input on the potential establishment of the Center for Innovative Water Technologies (CIWT) on Cape Cod to focus exclusively on developing solutions to the drinking water, wastewater, and coastal water management challenges of Cape Cod and southern New England that would also have broader potential applications in other regions of the U.S. and globally. Pivotal discussions at the meeting focused on technology pipeline sourcing and potential, water market technology needs, and availability of investment capital and experienced entrepreneurs. Cape Cod was envisioned as a natural hub for the CIWT, enabling innovators to draw on the substantial water-related research and entrepreneurship-related assets of the region and of greater New England. In addition, the CIWT would focus on advancing key public education and economic policy initiatives to drive adoption of the new technologies.

This white paper—the result of the April 5 meeting and subsequent meetings with additional stakeholders—outlines the rationale and potential configuration of the Center for Innovative Water Technologies on Cape Cod, including the pioneering approaches of:

- Focusing on local water problems to develop technology solutions with potentially global applications
- Establishing a smart-water "living laboratory" to provide new and existing companies a real-world testing and validation site for water technology innovation

Water Market Drivers

- Population growth and rising demand for water
- Pollution & deteriorating water quality
- Aging & insufficient infrastructure
- Increasing regulation
- Rising energy costs
- Diminishing underground water sources
- Health concerns connected with emerging contaminants
- Economic & environmental costs of moving and treating water and wastewater

Water Crisis Fundamentals:

Fixed Supply; Exploding Demand; Deteriorating Quality

The availability of adequate supplies of clean water is emerging as the global challenge of our time. Currently, more than one billion people—20% of the world's population—lack reliable access to safe water¹ due to supply shortages, poor quality, or inadequate distribution and disposal systems. By 2030, an estimated 4 billion people—nearly half the world's population—will lack adequate access to drinking water.² In the U.S., the problem is projected to assume acute proportions as early as 2013, when 36 states are expected to face water shortages.³

The world's water supply is finite, but demand for this most basic and necessary resource is rapidly escalating as populations soar and industrialization advances.

The earth holds the same quantity of water today as it did a million years ago. During the past century, demand for water has grown at more than twice the rate of the global population, averaging 2.5% to 3.0% per year—the basis for a recent World Bank estimate that annual water demand now doubles every 21 years. In the U.S., water demand tripled over the past 30 years, while population growth was 50%.

In many places around the globe, water quality issues have become as critical as water quantity issues. More than 50% of America's groundwater is polluted,⁴ a situation that is reaching crisis proportions in some areas. For example, Cape Cod, Massachusetts—a peninsula with 15 towns along 560 miles of Massachusetts shoreline—relies on a sole-source aquifer for its drinking water and on its substantial ponds, bays, and coastal zone for much of its economy. Since the 1970s, the Cape has seen enormous rates of growth in resident and summer populations, which has strained the region's infrastructure and threatened its ponds and coastal waters. Nitrogen pollution that enters groundwater and surface waters primarily through septic systems, as well as storm water runoff and wastewater treatment facilities, fuels explosive algae growth that chokes off oxygen and blocks sunlight from eelgrass beds, which are the foundation of the region's coastal ecosystem. These dynamics are creating “dead zones” that have little or no oxygen, suffocating vegetation and marine life and threatening the shellfishing industry, the tourist economy, and the beaches that lure visitors. Cape Cod residents now face the daunting (and costly) mandate to solve the Cape's water management problems or risk having its ponds and coastal zones stripped of marine life and become unsuitable for human use.

Snapshot: The Water Market

- Water is one of the largest industries in the world, representing a \$700 billion annual global market for goods and services that is projected to grow at an annual rate of 5%-8%⁵
- Over the past five years, the S&P Global Water Index, which covers the 50 largest listed water-based companies around the world, grew by 7.3%, outperforming both the S&P Global Primary Market Index (up just 2.9%) and the S&P 500 (-0.2%).⁶
- Total global water infrastructure spending is expected to reach \$800 billion over the next decade.⁷
- In the U.S., the water industry is a \$120 billion market that is expected to grow at 6%-7% per year over the next several years.⁸
- A projected \$1 trillion will be needed to rebuild America's aging water infrastructure over the next 20 years.⁹
- The “Smart-water” grid market is currently estimated to be \$540 million and is projected to become a \$20 billion industry by 2020.¹⁰
- Cape Cod planning authorities estimate the cost to install sewers to address the current nitrogen load that is endangering the environment to be between \$3 billion–\$8 billion

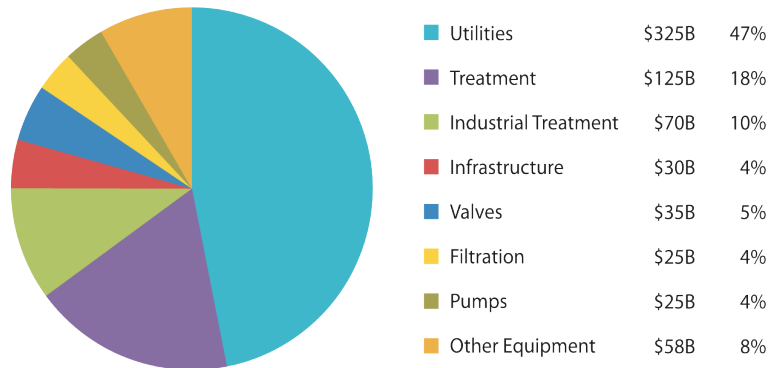
**Sustainable Water Usage:
A Top-Ranked Issue for the Military**

For the military to successfully meet its mission, the availability of high-quality, potable water is considered a major strategic and high-priority issue. The CIWT would be positioned to address a number of issues regarding the military’s need for new water-related technologies, including:

- The availability of potable water and the need to minimize a wastewater footprint at both fixed installations and forward operations is a major priority of the Department of Defense (DOD)—the logistics of providing safe, high-quality water and the handling of wastewater is supported by approximately 65,000 personnel, and the DOD provides substantial research and development funding for new water technologies that support its objectives.
- Cape Cod is home to the Massachusetts Military Reservation, which has been the focus of a major groundwater clean-up effort resulting from decades of pollution from inappropriate disposal of jet fuel and other toxic substances dating back to WWII.

Global Water & Wastewater Market (\$700 B)

The water industry comprises companies that provide products and services involved in the collection, conveyance, treatment, and monitoring/analysis of potable water and wastewater for residential, commercial, industrial, and agricultural uses.



Source: Claris Securities, Inc. Research Report, 2010

**Opportunity:
Developing Technologies to Solve Water Challenges**

The following factors underscore the rationale and strategic considerations of establishing a center dedicated to accelerating innovation and advancing public education and policy in water technologies:

- **Nations, states, and cities are unprepared** for water challenges that are expected to grow more severe and are increasingly seeking solutions for using water more intelligently and efficiently. Challenges include aging infrastructure and need for improved water delivery efficiency, water production technologies, advanced water quality testing, and wastewater management.
- **Rising public awareness** about the declining availability of clean water is translating into action: Increasingly, governments are taking on the complex questions and policy issues associated with managing water resources, distribution, and quality; corporations are becoming more involved on both the supply and demand sides of the clean water business; and venture capitalists have singled out “smart water” as an area of emerging investment focus.
- **Water utilities are increasingly turning to “smart-water grids”**—networks focused on the efficient monitoring and management of water quality, treatment, and distribution—as a means to improve the efficiency of their operations. (Pike research report)
- **Water industry dynamics allow for significant value creation** by smaller technology- and service-based companies focused on addressing water challenges
- **Research and innovation are required to drive advancements** in smart-water technologies, including systemic treatment, monitoring, and distribution of water; new methods for water production; and smarter water resource management
- **Entrepreneurship and innovation offer the most compelling strategies** to spur rapid development of water problem solutions
- **Cooperation among academic, industry, and government** entities will accelerate scientific and technological progress in developing solutions to water-related challenges
- **Access to a controlled, real-world testing facilities** will expedite technology validation and, possibly, regulatory approval.
- **Adequate and timely testing, validation, and regulatory approval** of new technologies will be needed at both the state and federal levels to ensure rapid water technology advancement and adoption.

The Center for Innovative Water Technologies

The Center for Innovative Water Technologies (CIWT) was established in May 2011 as a nonprofit focused 100% on advancing water technology development, education, and public policy. The CIWT is composed of three strategic components designed to empower early-stage, technology-driven solutions using principles of focused cooperation and entrepreneurship. By linking the worlds of research, technology development, and commercialization with private industry and early involvement of regulating government authorities into a dedicated program, the CIWT aims to provide a critical niche for water innovation that enables public- and private-sector policy makers and capital providers to connect and support each other to create effective responses to regional, national, and global water challenges. In this way, the CIWT will transform water problems into new technologies, successful businesses, and effective public policy.

The proposed new center will be developed to work synergistically with Cape Cod's proposed smart-water management grid, which will focus on the following pressing regional water issues:

- 1) Wastewater and Nutrient Management (including septic systems, storm water runoff, and industrial discharge)
- 2) Coastal/Estuarial Water Monitoring
- 3) Drinking Water Production, Quality Monitoring, and Management

3 Components

1. Water Technology Innovation Accelerator

The innovation accelerator will provide access to core engineering prototyping capabilities and wet laboratory facilities as well as laboratory/office space. It will also serve as a technology development center and launchpad for new water-focused startup companies. The accelerator will identify, nurture, and facilitate commercialization of new technologies that address the needs of the water market by providing a wide range of entrepreneurial services, including access to legal and strategic development services, identification of management teams for new start-ups, business planning, and market development. Industrial, investment, and government partners in the CIWT will actively participate in advising and providing in-kind resources to developing technology projects.

The technology accelerator will also:

- Identify “missing link” technologies needed by the water market and serve as a liaison between industry and academic researchers that may be interested in pursuing these challenges
- Establish an Small Business Innovation Research (SBIR) and grant support center to assist innovators in identifying funding opportunities and developing high-quality proposals
- Provide access to market and technical databases and research publications through collaborations with technology-based libraries
- Serve as a hub of like-minded activity for existing companies and entrepreneurs that may evolve into a sizeable water technology community



**WATER TECHNOLOGY
INNOVATION ACCELERATOR**



**"LIVING LABORATORY"
& MASSTC**

2. Verification and Certification Sites: MBL "Living Laboratory" and MASSTC

A "Living Laboratory" at the MBL

A pioneering concept of the CIWT is the combination of a water technology innovation center with a "real-world" demonstration and test bed for evaluating technologies prior to their commercial deployment, made possible by the "Living Laboratory" residential housing site provided by the Marine Biological Laboratory (MBL) in Woods Hole. The outfitting of this site with a network of intelligent, wireless sensors will provide innovators, entrepreneurs, and regulators a relatively low-cost way to explore, test, refine, and validate the potential of new technologies under real-world conditions.

The Site

The 72-acre site, located 1.5 miles from the main MBL campus, comprises 76 residential cottages that are occupied during the summer by MBL visiting scientists and graduate students. The seasonal use of the cottages will enable testing of a full range of technology parameters while mirroring the water usage and wastewater patterns of Cape Cod, where population more than doubles from tourist influx during the summer months.

The cottages are supplied by a municipal water source. Wastewater is handled by either individual septic systems or cesspools. The test site is divided into two distinct areas that are separated by a small wetlands area, with cottages equally distributed in each section. This configuration is expected to enable direct comparative studies of new technologies in development versus controls or similar existing technologies. The seasonal use of the site will also allow for the installation of new technology during the "off season" and the establishment of a controlled testing platform.

Capabilities

Plans are under way to identify and install in the residential cottages the necessary technology infrastructure to simulate a neighborhood with state-of-the-art, smart-water capabilities that enable continual wireless monitoring of water usage and nutrient loading. These capabilities include:

- Meters and sensors that are installed in the residencies or implanted in the surrounding grounds to monitor, measure, and analyze the distribution and use of water, water loss, and septic system nutrient discharge
- Wireless above- and below-ground internet communication capabilities for data transmission
- A central monitoring data station

The Living Laboratory is envisioned as a first step toward the broader monitoring capabilities that may eventually be available through the proposed Cape Cod smart-water grid.

Operating Model

Use of the Living Laboratory by industry and nonprofit organizations for the development and testing of smart-water innovations will be available on a contract basis. A CIWT technical advisory board would evaluate and select proposals. Selection criteria could include technology novelty, market need, and compatibility with the type of outcome measures being monitored at the Living Laboratory. It is anticipated that the Living Laboratory may also provide a significant source of revenue to help support CIWT operations.

Massachusetts Alternative Septic System Test Center (MASSTC)

MASSTC, located on the Massachusetts Military Reservation in Cape Cod, is a nationally recognized test site for innovative septic technology and one of only two such facilities in the U.S. MASSTC initiated operations in 1999 for the purpose of testing new and innovative onsite septic system technologies. The initial emphasis of the center was on systems focused on removing nitrogen from wastewater. Today, in addition to generating third-party treatment data and information, MASSTC is a premier research and development site for new ideas in onsite treatment. The center currently has 12 wastewater technologies implanted in the ground that are being monitored for their effectiveness. MASSTC has the ability to alter geological conditions that may affect wastewater discharge and nutrient loading and is capable of running 12 months a year and testing effectiveness based on seasonal and wide temperature changes. In collaborating with the CIWT, MASSTC could become a major resource for early-stage testing of alternative septic system technologies.

Potential Expedited Regulatory Certification

The CIWT is proposing to work with the Massachusetts Department of Environmental Protection and the U.S. Environmental Protection Agency to explore the potential establishment of validation testing centers such as the MBL Living Laboratory and MASSTC as a means for expediting the water technology-product regulatory approval process. The prospect of a more rapid certification process would stimulate and significantly incentivize development of new water-related technologies, position the CIWT as a preferred partner for entrepreneurs and industry, and provide a strong stimulus for local and regional economic development.

3. Center for Water Sciences Education and Policy

The CIWT will serve as a hub for water-related information exchange to facilitate advancement and adoption of novel and smart-water technologies, with a focus on:

- Advancing public education about smart-water use and management issues—for example, facilitating cultural shifts in the way water must be used and how wastewater may be disposed of in the future, including potential reuse as drinking water or as grey water for irrigation
- Advancing science and public policy to reduce obstacles and improve market conditions for the U.S. water technologies industry



**CENTER FOR WATER SCIENCES
EDUCATION & POLICY**

Seeding Early-Stage Opportunities: Water Technology Investment Fund

The availability of funding to transition an invention into commercial development is critical to stimulating innovation. While the water industry sector has traditionally not been a hotbed of venture capital investing, this trend appears to be changing, with VCs increasingly seeking opportunities in the emerging smart-water market.

Nevertheless, reports from water-based entrepreneurs and venture capital investors suggest there is a paucity of seed-stage financing for the transitional bench-to-company period. Currently, the primary source of startup-stage funding in this sector is from federal agencies (through SBIR grants as well as grants from the Environmental Protection Agency, National Science Foundation, and other government agencies) and private foundations, coupled with limited angel investment. In contrast to other cleantech sectors, investment in water-related

“The water problem is a global one. A CIWT on Cape Cod would be an important link with what is happening and what is needed in the water research space throughout the rest of the world.”

—Sharon Nunes, PhD
Vice President, IBM Smart Cities

technologies seems to occur once a product is very close to being in the market, or in the market and generating revenue. On the corporate investment side, it is possible that water-related companies may begin to provide some investment capital, but to date the majority of corporate investment in early-stage technology companies has been in the form of in-kind technical and business expertise, not financing.

The availability of a water-sector investment fund that provides equity financing in the range of \$50,000–\$500,000 per company is critical to enabling innovators to achieve the commercial proof of principle and developmental positioning required to secure additional venture or corporate funding to advance innovations toward commercialization. Ensuring access to such funding would provide a significant advantage over other technology development centers and an additional incentive for the best new technologies and startup companies to become affiliated with the CIWT and to locate on Cape Cod. The fund will seek relationships with early-stage venture capital firms, providing them access to the projects in exchange for advice and funding.

It is envisioned that such a fund would be affiliated with, but managed independently from, the CIWT, would be ROI-driven, and would not be required to fund any specific project other than those identified as the most commercially promising by the fund’s independent investment committee. This model is similar to that of Kinrot Ventures, an incubator and funding source for new water technologies that has been a major driver behind the development of the smart-water industry in Israel.

Why Cape Cod?

A unique combination of circumstances and assets position Cape Cod as an ideal location for the CIWT:

Access to Important Water Problems

Cape Cod is essentially a large sandbar positioned over a single aquifer. The Cape is currently addressing urgent water resource and wastewater management issues resulting from population pressures, including substantial nitrogen loading in estuaries and coastal waters, phosphorus buildup in freshwater ponds, growing concern about the long-term impact of pollution on the sole aquifer that supplies drinking water, and the need to expand current wastewater infrastructure to accommodate increasing sewage volume. Most of the Cape’s residents and businesses dispose of wastewater through septic systems which, in addition to storm water runoff and wastewater facility discharge, has caused nitrogen buildup in the Cape’s ponds, bays, and coastal zones. The situation has resulted in explosive algae blooms that deplete oxygen levels, with detrimental effects that make the waters unsuitable for swimming, boating, and finfish and shellfish harvesting. The Cape’s geology exacerbates the situation—wastewater from septic systems moves very quickly through the area’s coarse, sandy soils. It is estimated that addressing the wastewater issue alone will cost Cape Cod \$3 billion to \$8 billion. These issues provide ideal initial focus areas for CIWT efforts, and solutions to these problems could have broader global commercial application.

Access to Ready Test Sites

The CIWT’s unique 72-acre Living Laboratory site proposed by the Marine Biological Laboratory in Woods Hole will provide a pivotal resource for real-world testing and deployment of new smart-water technologies in development. This facility and the capabilities it enables would complement the existing Cape Cod-based Massachusetts Alternative Septic System Test Center (MASSTC), a nationally recognized site that provides third-party validation of innovative decentralized wastewater technologies.

“Cape Cod has an advantage in that it already has a ‘head-start’ with the world-class expertise that already exists in its research institutions.”

—Mary Keeling, Manager, Center for Economic Analysis, IBM Institute for Business Value

Access to World-Leading Marine-Ecological-Engineering Research Institutions, Expertise, Facilities, and Equipment

Cape Cod is an internationally recognized hub for water- and marine ecosystem-related expertise, home to the prestigious Marine Biological Laboratory, Woods Hole Oceanographic Institution, and Woods Hole Research Center. The U.S. Geological Service and the National Oceanic and Atmospheric Administration have research laboratories on Cape Cod, which is also home to a number of water-quality technology startup companies. MBL operates five centers with a direct interest in water and collaborates with Brown University on several water quality-related projects. The Cape is also located near world-class research institutions in Boston, Providence, and greater New England. Such institutions provide the critical foundation of scientific expertise and facilities needed to drive discovery, innovation, and the development of new technologies as well as a pipeline of inventions and intellectual property that can feed into the CIWT, providing the basis for new company formation or technology licensing. These academic institutions also provide a strong foundation for educating the public and the world’s scientific community on water-related issues. In addition, Cape Cod-based institutions and businesses currently have particular strengths in water and civil engineering and are expected to expand into advanced smart water.

Access to an Exceptional Range of Natural Water Resources

Cape Cod is surrounded by saltwater and has a comprehensive range of water environments, including bays, rivers, coastal estuaries, and freshwater ponds. In addition, the Cape’s drinking water is supplied by a single aquifer. Cape Cod provides a unique set of resources that mimic most of the water environments that are potentially relevant to new technologies, including aquifers, pollution plumes, wastewater management issues, established water systems, fresh-/saltwater interfaces, and a variety of seasonal issues.

Water Technology Training Programs

Students that successfully complete the training program in water technologies offered by Cape Cod Community College earn certification in water technology. This local source of technical training will provide companies and entrepreneurs a critical source of technical support personnel who have been trained in water technologies.

Management

- Executive Director: Robert A. Curtis, PharmD
- Vice President of Technology: TBD (A recognized technology development professional with strong academic and water industry connections)

Executive Committee

An Executive Committee will be established to provide strategic direction and fiscal oversight. It is anticipated that the Committee will consist of representatives from academia, the water industry, the investment community, water advocacy groups, and local and national government environmental and economic development agencies.

Operations

The CIWT is currently based in the village of Woods Hole, MA amid research institutions with interests in various aspects of water. Facilities to house the technology accelerator—which will include laboratory and office space as well as a core prototyping facility—will be established nearby. The Woods Hole-based MBL Living Laboratory and MASSTC, which is located at the Massachusetts Military Reservation on Cape Cod, will coordinate technology testing activity and projects. It is anticipated that these activities will be phased in once funding for operations is established.

“The wastewater infrastructure of the future won’t look anything like the existing infrastructure.”

—Simon Dukes, Corporate R&D, Siemens Water Technology Group

Next Steps:

The CIWT currently seeks startup funding to complete and implement its strategic plan for the technology accelerator and test sites, as well as to identify longer-term funding for the center’s operation.

Use of startup proceeds:

- Finalize strategic business plan and budget
- Establish Executive Committee for strategic direction and fiscal oversight
- Complete MBL “Living Laboratory” smart water monitoring infrastructure plan
- Recruit additional startup team and initiate operations
- Expand strategic partnerships with industry, academia, government, and nonprofit agencies
- Establish technology accelerator program criteria and screen initial opportunities
- Identify and pursue federal and private grant opportunities for project funding
- Review potential for water-focused investment fund for seed-stage projects
- Identify and secure technology accelerator facilities for new companies
- Sponsor and organize national- and international-caliber water meeting to support recognition of CIWT/Cape Cod leadership in new water technologies
- Define and implement metrics for measuring CIWT’s economic development impact

Board of Advisors

Abigail Barrow, Ph.D.
Executive Director
Massachusetts Technology Transfer Center

Kevin Brophy
Managing Principal
Meidlinger Partners

Simon Dukes
Water Technology Business Unit
Siemens Industry, Inc.

James Freedman
Technology Licensing Officer—Water
Massachusetts Institute of Technology

Joshua Hamilton, Ph.D.
Chief Scientific & Academic Officer
Marine Biological Laboratory

William Jackson, Ph.D.
Chairman
Regional Technology Development Corp.

Richard Jubinville
Vice President
AECOM

Khalil Maalouf
Managing Partner
XPV Capital Partners

Richard (“Chip”) Morse, J.D.
Coalition for Buzzards Bay

Christopher Neill, Ph.D.
Senior Scientist & Director
Brown-MBL Program in Biology &
Environmental Sciences
Marine Biological Laboratory

Paul Niedzwiecki, J.D.
Executive Director
Cape Cod Commission

Sharon Nunes, Ph.D.
Vice President-Smart Cities
IBM

Charles Spooner
Special Projects Manager—Water Quality
Environmental Protection Agency
(Retired.)

Harry Wilcox
Partner & CFO
Flagship Ventures

Andrew Whittle, Ph.D.
Professor and Head, Department of Civil & Environmental Engineering
Massachusetts Institute of Technology



Potential Partners

Initial potential partners to the CIWT include four major corporations, five universities and academic laboratories, three private investment organizations, two regional economic development organizations, and four government agencies:

- **Industry:** AECOM, IBM–Big Green Innovations, Siemens, Veolia Water
- **Academia:** Marine Biological Laboratory, Brown University, Woods Hole Oceanographic Institution, MIT, University of Massachusetts, Temple University
- **Investment:** Flagship Ventures, Meidlinger Partners, XPV Capital Partners
- **Federal & State Government:** EPA–ORD, EPA–Region 1, John Adams Innovation Institute–Mass. Tech. Collaborative, Massachusetts Technology Transfer Center, Cape Cod Commission
- **Government of Israel:** A new technology investment initiative recently announced jointly by the State of Massachusetts and the government of Israel will include funding of new water technologies. The CIWT will pursue a potential collaboration with Kinrot Ventures, a similar institution in Israel.

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