



ERNEST C. MANNING
INNOVATION
AWARDS

Support Innovation in Canada

Geoff Gosling

Location: Calgary, AB

Award: Innovation Award

Category: Industry

Year: 2010

Innovation:

Innovation: DIRTT Connecting Wall System that facilitates customization of modular wall systems. Read the News Release and Media Backgrounder for additional information.

2010 Innovation Award - Geoff Gosling



News Release

Calgary Industrial Designer Wins Manning Innovation Award for Sustainable Building Solution Creative DIRTT Modular Wall System Seeks to Eliminate Construction Waste

CALGARY, AB - (September 7, 2010) Geoff Gosling, team lead of Product Design and Engineering at Calgary's DIRTT Environmental Solutions, is to receive one of Canada's most distinguished innovation awards, the Ernest C. Manning Awards Foundation has announced. Gosling will receive a \$10,000 Innovation Award for his role in creating a modular wall system that virtually eliminates construction waste, withstands the test of time and allows clients to express themselves with custom-made interiors.

Over 3.3 million tonnes of the solid waste produced in Canada each year is due to construction, renovation and demolition activities. The DIRTT Modular Wall System, which Gosling's team designed, extends the life cycle of interior walls, doors and other surfaces because of the components' unique standard interface. DIRTT Walls integrate cleanly and seamlessly with new and existing building interiors, and are installed without creating any construction dust or waste. Only non-toxic, water-based finishes are used to prevent pollution and to keep indoor air quality healthy.

"There is a critical need for more innovation in Canada — Canadians need to create and commercialize innovations to compete in the global economy," says Bruce Fenwick, Executive Director of the Ernest C. Manning Awards Foundation. The Foundation, which is named after the former Alberta Premier, has provided over \$4.2 million in awards

nominations in its 29-year history.

An increasingly popular choice in offices and healthcare facilities, DIRT walls are adaptable and readily integrate technology, and so reduce the need to replace and discard electric wiring, a source of toxic e-waste. The modular wall components support infinite variability and can be custom designed in ICE® software.

Don Mah, Senior Capital Project Leader of BC's Burnaby Hospital Optimization Clinic, is an admirer of the DIRT wall system. The optimization clinic was designed to improve surgical patient outcomes with a healing environment. DIRT walls easily met the physical needs of patients and staff, and with soothing wall graphics, supported their emotional health as well. Says Mah, "As a healthcare facility, a greater emphasis is required for safety, infection control, cleaning and maintenance measures...The DIRT team stepped up to the plate and delivered a home run." "It sets a new benchmark for hospital design," Mah adds.

A growing demand for sustainability and universality in construction has made DIRT walls an overnight success. Founded by Mogens Smed in 2004, DIRT Environmental Solutions' annual revenue rose from \$20.5 million in 2006 to \$93 million in 2009. Today the company employs over 500 people in Canada and the United States.

Gosling will receive his award in Ottawa on September 17th, in front of an audience of Canadian innovators, elected officials, educators and business leaders at a gala hosted by Senator Pamela Wallin, OC, Preston Manning, CC, and Bernard Lord.

The Ernest C. Manning Awards Foundation (www.manningawards.ca) recognizes the importance of Canadian innovation in strengthening our nation's capacity to compete in the global economy. The Foundation annually supports and celebrates Canadians with the imagination to innovate and the stamina to succeed.

NOTE TO MEDIA For broadcast quality video clips and B roll of Geoff Gosling and DIRT Modular Wall systems, go to <http://rcpt.yousendit.com/942968377/88a72cb79f9cfe4b7334ab519f0a9c340&rc>

For photos, go to <http://rcpt.yousendit.com/940947137/228d40614454b538ee6d843c0493a2c58>

For media backgrounders, go to <http://rcpt.yousendit.com/941421787/239a72ed20a03b862231438ab9ad4d158>

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Media Backgrounder

\$10,000 Innovation Award

Geoff Gosling

The Why and How of DIRTT Walls

When industrial designer Geoff Gosling and his team put their heads together to design the DIRTT Modular Wall System, they sought a solution that would stand the test of time. What they created was a comprehensive interior wall system with made-on-demand custom design components that could be configured and re-configured in limitless ways. A growing demand for sustainability and universality in construction has made DIRTT walls an overnight success.

Who?

- Industrial designer Geoff Gosling is the team lead of Product Design and Engineering at Calgary's DIRTT Environmental Solutions Ltd. and primary inventor of the DIRTT Modular Wall System.
- Mogens Smed is the Founder and CEO of DIRTT Environmental Solutions Ltd.

What?

- Gosling has won a \$10,000 Innovation Award from the Ernest C. Manning Awards Foundation for his role in creating the DIRTT Modular Wall System, a sustainable and adaptable alternative to standard building interiors.

Where?

- DIRTT Environmental Solutions' main office is in Calgary, Alberta. The office and two manufacturing plants in south east Calgary employ nearly 300 people. An additional plant is located in the United States in Savannah, Georgia.
- Sister company Ice Edge® Business Solutions Ltd. has a Calgary office and employees elsewhere in Canada and in the United States. DIRTT subsidiary Spider Agile Technology, creators of pre-manufactured modular and conventional power solutions, are based in Kelowna, British Columbia.
- DIRTT Environmental Solutions has Distribution Partners across Canada and the United States, and in Bermuda and the Cayman Islands. Buildings with DIRTT wall interiors include homes, hospitals, elementary schools, government institutions and offices.
- DIRTT has showrooms in Calgary, Alberta and across North America wherever their Distribution Partners have offices, including New York City and Chicago, Illinois.

The DIRTT on Sustainability

Imagine a world with no construction waste. No dusty renovations. No dry wall and electrical wiring in the landfill. This is the world that industrial designer Geoff Gosling envisioned when he sat down with his team to design the DIRTT Modular Wall System. Gosling, who has won a \$10,000 Manning Innovation Award for his lead role

Over 3 million tonnes of construction, renovation and demolition waste end up in municipal solid waste streams in Canada every year. And as landfills get closer to capacity, resources are expended to make new building materials that survive only until the next upgrade, retrofit or expansion.

Says Gosling, “what we sought to do was to create a solution that was not around market need, but around real need.” DIRTT’s solution? To provide interior surfaces that can be reused and re-configured again and again.

All of the components that make up an interior space can have an unlimited life cycle in the DIRTT system. The system also includes any division of space and any job that a wall does, such as holding cabinets or lights, or supporting a sliding door. DIRTT walls are not only physically resilient; they can be re-purposed as needed. A left-handed door could become a right-handed door. A table top could become part of a console. And if an open office space were to require glassed-in meeting rooms and sit-stand work stations, these changes could be made without creating any construction dust or waste.

Recycling, Gosling says categorically, is a failure in green building design. Only a portion of building materials can be safely recycled. Furthermore, the very process of recycling uses resources. Sustainability must be a complete thought, he notes: It makes more sense to reduce and reuse.

The DIRTT system works because of the universal connections between the components. DIRTT walls also integrate cleanly and seamlessly with existing buildings and other manufacturers’ products so that these objects can live on, too.

Although DIRTT walls are modular, Gosling notes that their biggest competitor is standard construction material such as drywall. For large institutions, in particular, the flexibility to renovate quickly and cost-effectively is a significant benefit. DIRTT’s clientele includes, for example, the US General Services Administration. “

I believe we’ve done the responsible thing,” says Gosling. “By taking that really simple approach, it’s much more straightforward for us; we serve our clients better; we certainly serve the environment much better, because nothing goes into the landfill and objects live on.”

If Walls Could Talk

“(DIRTT walls allow) anyone to create anything they want,” says Gosling, adding “we didn’t feel we should dictate the aesthetic expression.”

From an elegant home to a nurturing hospital wing, clients can create radical custom designs from standard components. Angles don’t matter. Neither does ceiling height because of the horizontal connections in DIRTT walls. “You can literally take any two elements in our world and connect them,” explains Gosling. They also provide adaptors so that other manufacturers’ products function well in the “DIRTT world.”

When devising the DIRTT wall system, Gosling’s team first studied the behaviour of objects in interior spaces — such as what a door jamb does and how it fits together with a wall — and came up with a clear set of rules. Like traffic signs, the rules make it possible to “go anywhere” with an interior design and have all the pieces function well together.

“It’s really just a physical expression of language,” says Gosling. In designing the walls, he was inspired by the nature of LEGO®, in particular how the various blocks fit together regardless of the object

Thinking back, the idea for this “elastic interface” had been on his mind for some years — in the form of his parents’ 1940s Sunbeam toaster. He’d often thought about what it was that allowed this old appliance to live on. He realized that the toaster’s legacy was not only due to sturdy construction, but also because of the way that the toaster interfaced with the world. It had three elements that never changed: the power, the plug and the bread.

Similarly, the universality of DIRTT wall connections will allow the system components to live on, come what may.

With DIRTT walls, says Gosling, planning is not required. Components nimbly adapt to new situations and new functions, allowing for evolution, he explains. “We will never be finished,” Gosling adds, “...the world is our design team!”

Healthy Environments, Inside and Out

After an invigorating drive through south east Calgary’s industrial district, a windmill and one of the largest solar panel arrays in the city come into view. A fleet of Smart cars in the parking lot signals your arrival at the headquarters and one of two Calgary factories of DIRTT Environmental Solutions, Ltd.

Inside the manufacturing plant, Gosling says “take a deep breath!” There are no toxic vapours, no headache-inducing fumes, nothing to poison the indoor air quality or the outside environment. Even as the paint machine sprays a non-toxic, water-based coating on one wall unit after another, people on the floor work safely without masks. Coatings are cured quickly, using UV light.

To the side, a skilled fabricator works by hand to carefully align a strip of wood veneer — the only wood in DIRTT products — on a hollow aluminum panel.

The end result will be an indoor space that people can be in as soon as it’s created, with no need to off-gas the area and no danger of toxic components entering landfill.

In the adjoining offices, a team of “DIRTTbags,” as they call themselves, are meeting over a glass table that doubles as digital display panel. Here, in the DIRTT world, technology and the built environment merge. Plasma screens, LCD screens and digital whiteboards all blend into interior surfaces.

Pre-manufactured modular power units make it simple to add or subtract electrical power or equipment anywhere in a room. Face-tiled walls support power, data and security cabling which are integrated into the walls. Instead of drilling and sawing holes in a wall to install a plug outlet, all that’s required is to pop out a wall tile, do the work and pop the tile back in place. Neat and tidy, this solution also keeps old electrical wiring from becoming toxic e-waste.

The attributes of DIRTT walls made them a perfect “fit” for the Burnaby Hospital Optimization Clinic in BC. The centre of excellence in arthroplasty wanted to create a nurturing environment that would help patients to heal better and faster after joint surgery. DIRTT walls easily met the physical needs of patients and staff by providing handrails, easy-access doors, in-wall plumbing and easily-cleaned pop-out wall tiles. Graphical films covering the walls depict images of nature to create a comforting environment. To make patients feel at home, rooms have iPod docking stations and USB ports to display digital photos.

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