

The Royal Ontario Museum brings dinosaurs to life with help from Beyond Digital Imaging and HP Latex Printing Technologies



At a glance

Industry: Sign & Display – Exhibition and events

Business name: Beyond Digital Imaging

Headquarters: Markham, Ontario, CA

Website: www.bdimaging.com



Business name: Royal Ontario Museum

Headquarters: Toronto, Ontario, CA

Website: www.rom.on.ca



Challenge

- The Royal Ontario Museum (ROM) needed high-quality, lifelike dinosaur graphics that could be printed and installed on an extremely tight timeline.
- The museum wanted a printing solution that could authentically represent the high-resolution images created by its digital artist and was less harmful to the environment, but didn't know what options it had beyond using solvent inks.

Solution

- HP Latex Printing Technologies delivered blockbuster image quality that far exceeded the ROM's expectations.
- Fast-drying HP Latex Inks, odour-free¹ graphics, and the printing and installation expertise of Beyond Digital Imaging helped the ROM meet challenging deadlines and introduced the museum to print technology that could help it meet its sustainability goals.

Results

- The image quality of the ROM's wall graphics is so exceptional that one patron called them the "stars of the show."
- The ROM's 120 panels covering more than 929 metres squared (10,000 square feet) of exhibition space were printed and installed by Beyond Digital in 2 weeks – the largest HP Latex indoor wall covering project ever completed in Canada.
- Not only did HP Latex Printing Technologies help the ROM recreate a Palaeolithic world, it helped further enhance the museum's sustainability goals by delivering odour-free prints.¹

The Royal Ontario Museum (ROM) in Toronto, Ontario, features world-renowned exhibits that engage the public in cultural and natural history exploration. The ROM seeks to show how nature and humanity are intertwined. As the largest museum in Canada and the fifth largest in North America, the ROM sets a high standard for quality and innovation in exhibit design and execution.

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—Jason French, Project Manager,
Royal Ontario Museum

The museum's newest blockbuster, “Ultimate Dinosaurs: Giants from Gondwana,” opened in late June 2012. It tells the story of how plants and dinosaurs on different continents evolved differently, bringing the age of dinosaurs to life and allowing patrons to compare how species with the same origins changed as their environments changed.

“The important thing is to tell an engaging story with great accuracy – to bring this lost world to life for visitors,” says Dave Hollands, head of exhibits and design at the ROM. To tell that story, the museum relied on a number of innovative approaches, including augmented reality technology that enables iPad® users to walk up to the dinosaur skeletons and view them as if the creatures were still alive, interactive experiences such as reactive digital walls that allow digital dinosaurs to respond to the movements of patrons, and video games that put visitors at the centre of the action. The exhibition ends with a virtual battle between a Giganotosaurus and a Tyrannosaurus rex – two large land predators that never coexisted because they lived on different continents.

Even the wall graphics go beyond anything the ROM has ever done. With 929 metres squared (10,000 square feet) of wall space to cover, Hollands saw an opportunity to create more than just a background – he wanted to show the finest details of the Earth as it looked at the time of the dinosaurs. “If we’re going to take you on a walk through time, the background images are really important in recreating that world.” For the ROM team, that meant creating scientifically accurate graphics of plants and dinosaurs on nearly every surface, including murals, title walls, introduction panels, and lobby walls.

Such a large wall graphics installation would be challenging in any environment, but the ambitious visual goals of the design team and tight timelines for fossil reconstruction and technical installations required a printing solution the ROM had never used at such a tremendous scale. Although the museum didn’t know it yet, to achieve high-quality, fast-drying prints that did not emit toxic fumes,² the ROM needed HP Latex Printing Technologies.

The HP Latex advantage

Beyond Digital Imaging produces and installs large-format graphics for indoor and outdoor applications. Thanks to HP Latex Printing Technologies, Beyond Digital has been ahead of its competition in providing printing solutions

for large-scale projects that have a lower environmental impact. “Once we started using HP Latex, we saw that customers liked the output and operators found it easy to use, which in turn drove us to purchase more latex printers,” says Larry Chan, president of Beyond Digital. With its HP Latex printers, Beyond Digital produces a wide range of applications from vehicle wraps to large-scale indoor graphics.

So when the ROM put out a request for proposals (RFP) for the dinosaur exhibit, Beyond Digital knew they had the right technology for the job. Chan and his team delivered their proposal and the ROM was thrilled by what Beyond Digital offered. Not only could Beyond Digital deliver at a competitive price, but with water-based HP Latex Inks, the ROM could get print resolutions four times what the museum normally requested while meeting its sustainability goals.

HP Latex Printing Technologies give Beyond Digital several competitive advantages for large-scale indoor graphics installations like “Ultimate Dinosaurs.” One advantage is the enhanced drying time, which allowed Beyond Digital to move quickly from printing to installation. In addition, Beyond Digital’s HP Scitex LX and HP Designjet Latex series printers can print up to 1200 dots per inch (dpi). The ROM typically only requires up to 300 dpi for exhibit wall graphics, so when the design team realised how much sharper the images would be, it decided to raise the quality of the original files. The ROM commissioned graphics designed by Palaeoartist Julius Csotonyi to be seen up close without breaking the illusion of walking into a Palaeolithic world. With HP Latex Printing Technologies, those graphics were sharper and more evocative than any display the ROM had ever created.

“You can literally put your face up close to these and see every scale on the dinosaur without noticing pixels,” Hollands remarks. “For us, that was a tremendous benefit. We get the advantage of large-format printing and the photographic realism that allows us to recreate this world.”

Chan notes that large projects like “Ultimate Dinosaurs” are risky for print service providers (PSPs) because if things go wrong – if mural panels don’t match up or colours fade deeper into the run – the resulting overages can send costs up and profits down. Chan was able to offer the ROM a competitive price because he knew he could rely on HP Latex Printing Technologies to deliver accurate images and consistent colour.



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—Jason French, Project Manager,
Royal Ontario Museum

create a better work environment for employees. “Our Latex printer is located right in the middle of our plant. Because it produces odourless prints,¹ we can run it all day, twenty-four/seven, and it doesn’t produce any smell at all,” says Chan. He also notes that with HP Latex Printing Technologies, Beyond Digital doesn’t have to run expensive ventilation equipment.³ “When air goes out it has to be replaced. When we run solvent printers, we notice that our heating bill or cooling bill is significantly higher.”

Quality prints, delivered quickly

More than 120 pressure-sensitive adhesive vinyl panels had to be installed before the dinosaurs and interactive technology could be put in place, giving Beyond Digital only 2 weeks to RIP files as large as 5 gigabytes, print the panels, check the prints for alignment and colour consistency, and install the graphics. Thanks to HP Latex Printing Technologies, Beyond Digital was able to beat its competitors, not only with price, but also in its projected delivery time.

The tight timeline could have been a significant problem if Beyond Digital were using eco-solvent inks to print the materials. Eco-solvent technology would have added multiple days to the process and required many more hours. Because eco-solvent applications need time to release the hazardous gasses in the ink, the installers usually have to lay out the graphics in a warehouse or on a loading dock to let them off-gas. When there’s no time to air out the graphics, the ROM has them installed and runs the building’s HVAC system on high to draw out the gasses. With HP Latex Printing Technologies, the ROM didn’t have to worry. “With HP Latex graphics, we weren’t dealing with the off-gassing and drying time we would normally have been dealing with in a graphic installation of that scale,” says Jason French, project manager at the ROM.

HP Latex Printing Technologies also helped the ROM protect its exhibition objects. According to Dave Ireland, managing director of biodiversity programmes at the ROM, the museum’s conservators “are thrilled with the choice of HP Latex technology.” He adds that “Off-gassing and toxic leaches with big exhibits are always a concern. We ask ourselves, ‘How will the materials we’re bringing into contact with our artefacts and specimens impact their longevity?’”

Creating exhibits with the environment in mind

The reaction to “Ultimate Dinosaurs” from the ROM patrons has been overwhelmingly positive. “You can see it on their faces when they walk in and see the first dinosaur,” says Ireland. “They’re blown away.” According to French, the graphics were an essential part of that success. “I had one person tell me that, besides the dinosaurs, the graphics were the stars of the show.”

But the success of “Ultimate Dinosaurs” is a chance for the ROM to do more than wow visitors with the size and ferocity of Giganotosaurus; it’s an opportunity to show how the environments species live in can affect their future. Ireland believes that this message applies just as well today. By telling the story of dinosaurs suffering the fifth great extinction, Ireland says, it’s an opening to discuss the sixth great extinction currently underway, and to suggest actions people can take to prevent it from continuing. “You need to make sure your staff, facilitators, and volunteers understand that these large colour murals are non-toxic and not off-gassing. We need to say, ‘Not only are dinosaurs cool, but museums are actually using solutions that are as environmentally friendly as possible.’”

Water-based HP Latex Inks and HP Latex prints, which are easier to recycle than eco-solvent prints,⁴ help the ROM reduce its environmental footprint and

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Biodiversity, Royal Ontario Museum



promote ecological responsibility. “It helps us walk the talk of an organisation advocating for nature,” says Hollands. Ireland adds, “When it comes to the sustainability of museums, we want to make sure we’re at the leading edge.”

Ireland expects to communicate the benefits of HP Latex Printing Technologies in side exhibits and a lecture series about the project. He also thinks the ROM has an opportunity to show other museums the benefits of HP Latex Printing Technologies. “The message needs to go out that making use of HP Latex technology for big murals is a smart move.”

Beyond Digital and the ROM see future opportunities

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Ireland, Hollands, and French all agree that HP Latex Printing Technologies will be a priority for future projects at the ROM. Hollands says, “Now that we see the possibilities, we could write HP Latex printing in our terms of reference.”

As for Beyond Digital, “Ultimate Dinosaurs” may be the largest HP Latex indoor wall covering in North America, but Chan believes it is only the beginning. He expects other museums to see the print quality and environmental benefits of this exhibit and begin requesting HP Latex in their RFPs. The result for museums is a versatile printing solution that is more sustainable and better for the workplace than solvent inks. For Beyond Digital and other PSPs, HP Latex Printing Technologies create opportunities to install graphics in more venues and meet the needs of more customers.

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- 2) Contains no detected Hazardous Air Pollutants according to EPA Method 311.
- 3) Special ventilation is not required to meet U.S. Occupational Safety & Health Administration (OSHA) requirements on occupational exposure to VOCs from HP Latex Inks. Special ventilation equipment installation is at the discretion of the customer – no specific HP recommendation is intended. Customers should consult state and local requirements and regulations.
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