

the Edge

The Louvre Abu Dhabi, designed by French architect Jean Nouvel, is slated for a December 2015 opening.

Building for Art's Sake

World-class museums no longer stake their reputations on art and artifacts alone; the museum building itself must be viewed as an architectural treasure. Along with surging visitor numbers and swelling collections, this trend is driving a spate of major museum projects in New York, New York, USA; London, England; and Abu Dhabi, United Arab Emirates (UAE). The projects expand, move or build new branches of some of the world's leading museums—and face challenges ranging from unusual building sites to allegations of labor abuses.

The €400 million Louvre Abu Dhabi designed by French architect Jean Nouvel, slated for a December 2015 opening, and the US\$800 million Guggenheim Abu Dhabi designed by U.S. architect Frank Gehry, scheduled to open in 2017, are prime examples. Branches of the original Guggenheim and Louvre museums in New York and Paris, France, respectively, the projects are central components of the UAE government's planned "cultural district" on Saadiyat Island. Because the two museums will be surrounded by water on three sides, engineering hurdles are substantial.

The largest challenge facing Saadiyat's three museum projects—the Zayed National Museum is scheduled to open in 2016, with assistance from the British Museum in London—is putting to rest international concern about widespread abuses of migrant workers, including poor living conditions, unpaid wages and forced labor. "I therefore call on the UAE government, but also on all companies involved in the Saadiyat project—including [the] Louvre, British Museum and Guggenheim—to ensure that any form of mistreatment is addressed and that all migrants can fully enjoy their human rights," Barbara Lochbihler, chair of the European Parliament's subcommittee on human rights, said in December 2013.

€400 million
Cost of Louvre Abu Dhabi

4,500
Truckloads of material excavated for British Museum expansion

220,000
Square footage (20,440 square meters) of new Whitney Museum of American Art

ART HOUSES

Rather than rest on their laurels, many of the world's most prominent museums are building new wings or homes—or branches in Abu Dhabi. Here's a look at projects underway around the world.

TATE MODERN EXPANSION

Location: London, England
Budget: £215 million
Schedule: slated to be complete in 2016

WHITNEY MUSEUM OF AMERICAN ART NEW BUILDING

Location: New York, New York, USA
Budget: US\$760 million
Schedule: slated to be complete in 2015

V&A MUSEUM OF DESIGN DUNDEE MUSEUM

Location: Dundee, Scotland
Budget: £45 million
Schedule: slated to be complete in 2016

HARVARD ART MUSEUMS RENOVATION AND EXPANSION

Location: Cambridge, Massachusetts, USA
Budget: US\$350 million
Schedule: slated to be complete in 2014

GUGGENHEIM ABU DHABI MUSEUM

Location: Abu Dhabi, United Arab Emirates (UAE)
Budget: US\$800 million
Schedule: slated to be complete in 2015

LOUVRE ABU DHABI MUSEUM

Location: Abu Dhabi, UAE
Budget: €400 million
Schedule: slated to be complete in 2017

SHEIKH ZAYED NATIONAL MUSEUM

Location: Abu Dhabi, UAE
Budget: unknown
Schedule: slated to be complete in 2016



Neighboring Relations

The British Museum managed to avoid controversy during its recently completed £135 million expansion project in London. The World Conservation and Exhibitions Centre, which includes a gallery for temporary exhibitions, conservation studios, research laboratories and artifact storage facilities, did encounter both stakeholder and construction challenges, however.

"The new building site is surrounded on three sides by the existing museum," says British Museum project director Tony Wilson. The project team determined that it was risky to move the artifacts—including 13th-century Egyptian wall paintings,

Chinese porcelain vases and Greek marble sculptures—than to leave them in place during construction. "On the fourth side we have a number of close neighbors in a series of townhomes where there was equal sensitivity from their point of view about noise and movement," Mr. Wilson says.

Yet crews had to dig a 20-meter (66-foot) hole and excavate 4,500 truckloads of material to build the new facility's subterranean levels without disturbing neighbors and patrons and damaging adjacent buildings and their priceless contents. "It was a mammoth task that required careful planning and close attention to things like vibration management," Mr. Wilson says. Before the project could begin its excavation phase, the museum developed a sophisticated vibration monitoring system. "If vibration from construction exceeded a certain level, an alarm would sound and we'd know to stop work immediately."

Responding promptly to concerns of neighboring organizations helped maintain good stakeholder relationships throughout the project. "A number of our neighbors are educational establishments with exam rooms immediately adjacent to the site," Mr. Wilson says. "So we offered them rooms in the museum at exam time to minimize the impact on them."

Four years after site work began, the project was completed in July 2014, on time and within budget.

Expanded Scopes

Construction of a new home for the Whitney Museum of American Art in New York hasn't been quite as smooth. The 220,000-square-foot (20,439-square-meter) project includes 50,000 square feet (4,645 square meters) of indoor gallery space, a retail shop, a restaurant and an education center with classrooms. Construction on a site overlooking the Hudson River began in 2011 and is scheduled to end in 2015. Although the budget was increased several times (it is now US\$760 million) to accommodate scope expansions, project leaders were granted the flexibility to build the museum they wanted.

"We had weekly meetings with the chairman of



Guggenheim Abu Dhabi, designed by U.S. architect Frank Gehry, is scheduled to open in 2017.

our Trustee Building Committee to review problems, solutions and changes," explains project director Bill Maloney. "We've tried to make them feel part of the project so they'd take ownership of it."

The project's greatest challenge so far was Hurricane Sandy in 2012, which threatened its schedule. Fortunately, construction was not very far along, so site damage was minimal and the project team was able to quickly get back on schedule. But the design was altered to mitigate future storm risks.

"We added a year's worth of work, in terms of flood mitigation, but we didn't lose a day," says Mr. Maloney, attributing the achievement to generous budgeting and creative management of the flood mitigation process.

Once the new Whitney Museum opens, he adds, any lingering questions about the project's increased budget will be forgotten. "Within a very short time, people will forget what it cost. It will be all about the art." —Matt Alderton

The **€400 million** Louvre Abu Dhabi and the **US\$800 million** Guggenheim Abu Dhabi are central components of the UAE government's planned "cultural district" on Saadiyat Island.

THE NEW ASEAN TIGER

The Association of Southeast Asian Nations' (ASEAN) collective economy is booming—and project management practices across the 10-country region are maturing in an increasingly complex project landscape. With a combined GDP of US\$2.4 trillion in 2013, the region—which includes wealthy Singapore and impoverished Myanmar, as well as large emerging economies like Indonesia and the Philippines—is already a key player in the global economy. Fueled by maturing regional supply chains and major infrastructure and urban development projects, ASEAN is projected to become the world's fourth-largest economy by 2050.

As the area's economy grows, project managers are facing new challenges, says Singapore-based William Yong, vice president and managing director for Black & Veatch's water business in Southeast Asia. "With the emergence of new technologies and the maturation of suppliers from developing markets, procurement options are evolving," he says. "Seasoned project managers in the water sector must be familiar with safety, project planning, cost control and the quality systems expected of world-class projects."

Yet many organizations have been slow to adapt their project management processes, says Shazlee Rosli, PMP, PMO lead at oil and gas company Petronas ICT, Kuala Lumpur, Malaysia. "Project management practices here mature slowly compared to Europe or North America. They're improving, but not with sufficient speed," Shazlee says. "People are too comfortable continuing in the same way."



"Project management practices here mature slowly compared to Europe or North America. They're improving, but not with sufficient speed. People are too comfortable continuing in the same way."

—Shazlee Rosli, PMP, PMO lead at Petronas ICT, Kuala Lumpur, Malaysia