



# A new look for Russia's hospitals

3D modeling helps NBBJ create patient-focused medical center

Like hospitals the world over, Russian health care facilities often have an institutional look that can intimidate people – heightening a patient's anxiety, and perhaps making the hospital a place to avoid.

NBBJ reinterpreted patient experience with its design of the Moscow Medical Center, now under construction in suburban Krylatsky Hills. Critical to its success was Bentley building information modeling (BIM) technology, which NBBJ used to design the hospital and document its design.

"An excellent project, making the best use of Bentley's BIM solution for integrated design and documentation, and for presenting design concepts in a lucid and innovative manner," said industry analyst Lachmi Khemlani, a juror for the 2004 BE Awards.

## Erasing the hospital stigma

"Older health care facilities have an institutional approach in the way they were built during the 1960s and '70s. Our objective is to remove the mystery and stigma of the institution, and make it much more family-oriented and patient-focused," said Drew Burgess, NBBJ senior associate, who led the Moscow project.

NBBJ aims to design health care spaces that enable healing. Their goal is to create experiences that are both operationally efficient and patient-friendly. This assures patients they are important and will receive competent care.

The spaces created and materials used by NBBJ seem more suited for an upscale hotel than a health facility: a two-story main lobby, a fireplace,

and granite floors. For Russia, the Moscow Medical Center represents a fresh outlook on the design and delivery of health care – a new vision, philosophy, and methodology.



▲ "Visualizing something two years before it's built helps with decision making and enables us to explicitly communicate with our clients," NBBJ's Drew Burgess said.

## 3D visualization is the key

NBBJ used Bentley Architecture for the project. The team set out to explore the range of opportunities for 3D visualization across the entire design process.

"We used the 3D BIM technology throughout the design phase to study alternatives and make sure we were going in the direction our clients wanted us to pursue," Burgess said.

Whether for explaining rationale and alternatives for building massing, illustrating uses of materials, or describing interior spatial relationships, 3D visualization was the predominant methodology. And with the design finalized, the information from 3D models was fully coordinated with the 2D drawings for construction documentation.

3D BIM visualization played a critical role in communicating design intent to organizations such as ABD Ltd. Architects, NBBJ's Russian associate firm, which helped the project

meet building codes and gain regulatory approvals.

"Through Bentley technology we were able to look at objects in 3D, which provided a better means of study and communication, enabled us to work better with our client and team, and let everyone see what the finished product would look like," Burgess said.

## Improved decision making

Burgess characterizes the advantages of BIM as "being able to understand 3D space in a more comprehensive way so that we are more sensitive and better informed when we design," he said.

"Visualizing something two years before it's built helps with decision-making and enables us to explicitly communicate to our clients what they are getting. And I think we are better designers through this technology, because it gives us a more realistic view of the way things are." ■

### Project

Moscow Medical Center

### Organization

NBBJ

### BE Awards category

BIM in Architecture

### Project objectives

To design a hospital that enables healing by creating patient experiences that are both operationally efficient and patient-friendly

### Fast facts

NBBJ used Bentley building information modeling (BIM) technology to design the hospital and document its design. 3D visualization played a critical role in communicating design intent to clients and collaborators.

### Bentley products used

MicroStation V8

MicroStation TriForma

Bentley Architecture