

2

The Magazine of
The Brooklyn Tech Alumni Foundation

Fall 2017

TECH TIMES

WHAT'S
IN
SIDE
A
TECH
NITE'S
HEAD
?

Ph.D.'s
in Class
Surprise
Reveals



Talking With....

FLOYD WARKOL

Technology is changing how buildings are built... and how we live and work in them. Floyd Warkol '65 works right on the cutting edge of the changes.

An afterschool job as a contractor's errand boy on Atlantic Avenue gave Floyd Warkol his start in the construction industry. He came to work in a suit on the day he posed for his yearbook photo — prompting supervisors to try him at a desk job for the day...then the next, and the next. By college, they had him managing projects, and he never looked back. Today he is chairman of the board and CEO of KSW Mechanical LLC, a leading subcontractor, deeply involved in the massive emerging Hudson Yards development. KSW specializes in heating-ventilating-air conditioning (HVAC) systems, but Warkol describes his work as “value engineering.”

T²: *What is “value engineering?”*

A.: It is about offering choices that owners don't realize they have. We look at a building plan and make recommendations that save money or energy, all with the engineer's approval. We are contractors: we understand owner costs.

T²: *New York's skyline has changed dramatically. What's new and different inside those new skyscrapers?*

A.: What you're looking at is larger buildings, and smarter buildings. You enter the lobby, and the building knows you're coming. Your iPhone tells it who you are and where you're going, and the elevator takes you to that floor and that floor only. Smart buildings are prewired for all your possible needs. It's a fiber network highway, running through the building.

T²: *What runs on that highway?*

A.: Security, wi-fi: You always see people walking into a hallway, or toward a window, to get better cell phone reception. Not a problem in new buildings. And systems talk to each other and to us: an air conditioning unit can tell me the leaving temperature and the returning temperature. A chiller will tell me what tonnage it's drawing, what the water

temperature is going in and out.

T²: *So smart buildings are more efficient and economical?*

A.: You can know where every bit of electric usage is. That helps you shed load, because now you know where the load is. If you have a water leak: the water bill comes only every six months, so you get a bill you didn't expect for \$100,000, and then you know you have a leak. Well, guess what? I could put a device in the building that will tell you instantly. Water treatment and concern for Legionnaire's disease: smart meters today will tell you immediately if you have a problem.

T²: *The new towers even look different. How has technology affected design?*

A.: All that curved glass? What you can build today, you couldn't draw not too long ago. You couldn't dimension it. Square buildings are one thing, but oval shaped with arcs going this way and that way — you have to 3D model that. You think it's easy putting in pipes and ducts on an angle? Well, what do you do when it curves?

T²: *What's new in energy savings?*

A.: LEED was the first standard, but the city is moving toward further energy reduction:



better glass, better walls and insulation, better U-values (heat transmission through building elements). And co-generation. The Hudson Yards complex will have 13.4 megawatts of co-generation, plus additional emergency power. If there's a blackout, the co-gen takes over and you'll see all our buildings lit up. Not just life safety but enough power to light up the entire complex.

T²: *So technology lets the architects draw it and the builders build it. It sounds like the distinctions from past days — mechanical engineering for builders like you, coding for the computer crowd, are merging.*

A.: Now those paths are coming together.

T²: *A lot exciting is happening in your industry. Are young people sufficiently aware of the opportunities?*

A.: This is a monster industry that doesn't attract as much talent as it should. It is very rewarding.

Think about it: you do something, it stays there. Every time you pass by, you know you had something to do with it. That's something that should be turning students on. But we are one of those industries that aren't taught in school. Teach them, and young people will find an industry that wants them.