technology today

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Turning Architectural Dreams into Reality

As I write this column, my wife and I are preparing to leave on a trip to explore the ancient archeological achievements of the Greek and Roman empires. Our trip will expose us to a continuum of European technological achievements brought about by brilliant people—ancient as well as modern—who found a way of turning their dreams into reality. This column is dedicated to the future dreamers out there (some perhaps forced to read this column by their teachers) who will one day change the world by turning their own dreams into new emerging technologies or artifacts.

Building skyscrapers with unusual architectural designs has become a contest to see who can claim the achievement of building the world's tallest structure. Building architectural wonders under water is something new and fresh and perhaps the perfect subject for this column on turning architectural dreams into reality.

To attract tourism, the government of Dubai is currently building some of the most striking architectural structures in the world. In this emirate of the United Arab Emirates, you will find the world's tallest building and a series of artificial islands that are sized and proportionally shaped so that together they form a World Archipelago (World Map). Tall buildings and artificial islands have been constructed before, but lodging tourists underwater in luxury rooms is something completely new.

The architectural designs for the Dubai Water Discus Hotel were developed by Deep Ocean Technology. Photo 1 shows what this hotel will look like above water and Photo 2 shows the amenities of an underwater guest room. Most of the actual construction will take place at Drydocks World, which is located in Dubai. This company is already known for successfully completing some of the world's largest floating systems (www.drydocks.gov.ae/en/default.aspx).

The underwater rooms will be located 33' below the surface of the water and, if the fish cooperate, these rooms will provide their occupants with an aquarium experience that no other hotel in the world can match. The glass outer walls of the rooms will allow occupants to see the underwater flora and sea creatures indigenous to the area. A coating on the glass will prevent the fish and divers who swim by from seeing into the rooms. If you look closely at Photo 1, you will notice the shaft that will transport the guests between the above water and below water sections of the hotel.

One of the fascinating features of this project is the concept behind its construction. It will be built by a shipyard in modular sections that will be floated to the waterfront site where they will be assembled. The parts will be joined together to complete the hotel using assembly systems that will allow it to be disassembled once again back into its floating components, if relocation ever becomes necessary.

This modular approach will also allow for cloning the hotel and ship-

Deep Ocean Technology

Photo 1—The Dubai Water Discus Hotel looks more like a group of flying saucers that have landed on earth than a hotel with luxury rooms under the sea.

Deep Ocean Technology

Photo 2—This hotel room will be located 33' under the sea. It will have fish of all sizes and shapes swimming past its windows.

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Atkins Global

Photo 3—Architecturally, the Shimao Wonderland Hotel in Shanghai is in total harmony with its surroundings. It brings new purpose and value to an abandoned rock quarry.

ping the clones by sea to other seaside resort areas of the world. If the project proves financially successful, this could become the first of a string of Discus Underwater Hotels. Each new hotel would also house the same kind of research laboratory planned for this one, where underwater research will focus on ocean environment protection issues.

It appears that extreme architecture will soon start providing us with hotel rooms under the sea. Architectural dreamers have also explored other places to build where no one has ventured to build before. The Shimao Wonderland Intercontinental Hotel will also have rooms underwater. It is now under construction in an abandoned rock quarry in Shanghai, China. (See Photo 3.)

The underwater rooms of the Shimao Wonderland will be submerged in an artificial lake created by flooding the rock quarry when construction of the hotel is completed. The lake will then be filled with appropriate plants and fish to give tourists an interesting perspective on living under the sea. The hotel's heating, cooling, and electricity will all be supplied by geothermal energy. (Geothermal energy sounds more exotic than it is. Basically, the heat that is found under the surface of our planet is tapped in the form of hot water or steam and then piped into the needed location to spin electric generators.)

Recalling the Facts

1. Is the use of geothermal energy as a power source an old or new technology? Research its past and current uses.

2. Do you think Dubai's new underwater hotel will start a new worldwide architectural competition to see who can build the biggest, most luxurious place to live under the sea? Why?

