

# **Durable Low Cost Housing for the Urban Poor in Developing Countries by John Livingston P.E. former Senior Research, Development and Engineering Executive for MiniMed**

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## **Abstract**

Roughly one billion people live in dilapidated shacks in urban slums. There is a need for basic shelter, which is inexpensive, structurally sound, secure, fireproof, waterproof, insulated, and vermin and insect resistant. Ideally, the shelter should occupy the same space as an existing slum dwelling (usually less than 200 square feet). In some countries, squatters must be able to move into the new shelter on the same land as their existing shelter within one daylight period to avoid eviction. Therefore, construction must be accomplished within one day. Typically, construction will be done with fewer than five workers with simple hand tools, no power, and no poured concrete slab. The long-range goal is to develop inexpensive construction materials, designs and techniques to enable local construction enterprises to build durable homes in urban slums.

The presentation will describe some current approaches to meet the need for such individual and group housing, and describe the prototype designs that have been built in a South African slum by Tapestry Homes, a Christian non-profit based in Southern California. Social impact and the importance of inputs from the local inhabitants, governmental agencies, financial institutions, social service organizations and aid organizations will also be discussed.

## **Speaker's Bio**

John Livingston spent 16 years with MiniMed, a startup manufacturer of medical electronic devices to serve people with diabetes. He was the senior Research, Development and Engineering executive for the company, which was subsequently acquired by Medtronic. His career also included activities and responsibility for Manufacturing, Regulatory Affairs, Legal Affairs, Grants Management, and University Relations. Prior to MiniMed, Mr. Livingston held positions in Research and Development at IMED, Cordis, and General Dynamics. He is a USAF veteran, and earned a B.S. in Engineering and Applied Science from Yale, an M.S.E. E. from Stanford, and a J. M. from Stanford School of Law. He is a registered Professional Engineer and a Patent Agent and has more than 20 patents relating to medical devices. He serves on the Board of Directors of Tandem Diabetes Care, a startup in San Diego, on the Advisory Board for Jio Health, a private company in Irvine, and on the Clinic Advisory Committee at Harvey Mudd College. He is involved with a number of Christian charitable organizations, including the Barnabas Group, MAP International, Threads Africa, and Tapestry Homes.