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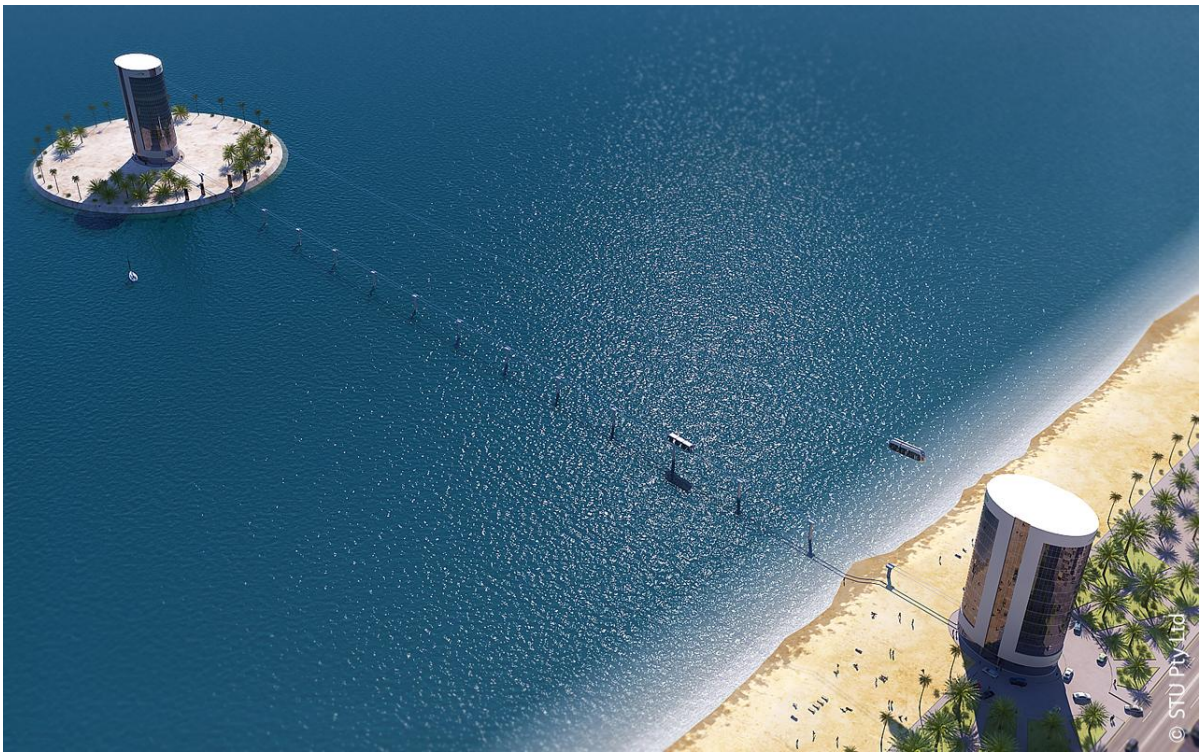
SDS Development Pilot Project

Preliminary conceptual study of high-rise buildings based on string technologies, interconnected with the "second level" rail city transport, and other sustainable developments based on string technologies (string bridges, runways and vacuum glass)



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Note: electronic originals of illustrations, placed in the document, are attached to the project to be used for marketing purposes.

1 High-rise buildings based on string technology and organization of traffic between them

1.1 Introduction

The idea of transport system implementation for passenger traffic between two multifunctional station buildings based on SDS string technologies is briefly described in the Project by STU Pty Ltd. This is a demonstration project and its purpose is to show potential customers the advantages of string technologies in comparison with already existing city infrastructure. The Project offers a complex solution of the most acute problems for the cities and towns. The implementation of the most environmentally friendly and safe transport system, so called “SCS aerial metro” of the “second” and the “third” level, is represented in the Project. The possibilities of the system are not represented at a full volume in order to minimize investment costs without reducing investment attractiveness of the Project.

The urgency of this Project results from existing and growing problems of the cities. The most acute problem is organization of speed, safe, economy-priced and environmentally friendly passenger and freight transportation in urban areas without considerable interference and, moreover, without destroying of existing natural landscapes, buildings and ecosystems.

Road transport currently holds the dominant position in intercity passenger traffic. Transport infrastructure which came into existence in the period of active development of public transportation was not ready for existing level of automobilization. Imbalance between road network capacity and other elements of residential areas transport infrastructure, its sensitivity to natural disasters has negative environmental impact and reduces transport mobility of the population. An access of transport to manufacturing enterprises, business centers, trade, medical and other centers (see Fig. 1) is also reduced. Existing city transport is not secure for the environment. Besides, there are plenty of injuries and deaths in constantly occurring accidents, due to the fact that pedestrian and

traffic flows are on the same level, i.e. on the terrain. In most cases even underground is not able to solve city problems, not only because of extremely high capital expenses for underground constructions (more than 100 mln. AUD/km), but also due to the fact that, for example, in the areas of flooding such transport system would be completely destroyed and would not be a subject to reconstruction. Moreover, rapid flooding of underground utilities may cause blocking of trains and mass human losses.

String Transport Unitsky (STU) is multifunctional unique transport system designed for transportation of passengers and different types of cargoes in the cities. STU uniqueness is in its track structure which is raised above the terrain. It is characterized by low material consumption (approx. 80 kg/m for double-line track structure) and, as a result, low cost (approx. AUD1 million per 1 km), which is approximately the same as the cost for cableway construction. There is no need for extensive ground preparation, embankments, excavation, construction of culverts, bridges and viaducts. The track structure may pass across rivers, lakes, parks, streets (see Fig. 1) and low-rise buildings. STU is all weather operational, i.e. it is resistant to natural disasters, including floods, tsunami, earthquakes, hurricane winds, torrential rains, heavy snowfalls, etc. (see Fig. 2, 3).

Fig. 1. Mounted SCS city transportation
(at a transient stage; in the future, when SCS technology is of mass use, the cars may be completely removed from city streets and urban area will become totally pedestrian)

Fig. 2. Flood in Australia. Transportation of passengers in suspended SCS

Fig. 3. The consequences of heavy rains. Mounted passenger city SCS transport system

High-rise STU station buildings based on string technologies have the same advantages. They will be business centers of pedestrian clusters with low-rise residential and public buildings, which will be as well constructed based on SDS technology.

The project will define the basic criteria for SDS implementation in terms of urban, suburban and inter-city development projects, including creation of linear cities integrated into existing environment. Economic, ecological and technical components will be determined. The project will also demonstrate the possibilities of SDS for urban planners in organization of urban and suburban development.