



## Of Skyscrapers and Rolling Fridges

A Conversation with Essa Abdul Rahman Al Dosari, CEO of the Public Transport Agency of Dubai's Roads & Transport Authority RTA

Public transport systems are living organisms. Like trees, they become bigger, denser and more complex over the years. Metros and city rail systems represent the roots and the trunk, giving stability to the entire structure. Trams and buses form the expansive network of branches. The tree's whirling leaves are symbolized by individual traffic with its countless cars, taxis, motorbikes and cyclists. That structures grown in this manner can function in everyday life—sometimes more, sometimes less—can be witnessed in numerous cities all around the globe. But a targeted and efficient adaptation of these organically expanding systems to the ever-increasing amount of traffic is not easy, causing sleepless nights for many a traffic planner.

Things are much easier for communities that are in a position to plan their public transport infrastructures from scratch. Example: Dubai, the booming desert metropolis. Every year, Dubai's volume of traffic grows by 17 percent—a world record that eclipses even megacities such as Rio de Janeiro, Mumbai or Shanghai, which are notorious for their traffic problems. What makes Dubai so special is the rapid speed of its urban development: prior to its independence in 1971, the city was a stretch of stony desert with a few mud huts. Since then, the area has virtually exploded: bombastic hotels, glittering shopping malls, visionary architecture and continuously increasing amounts of tourists characterize its appearance. One third of the world's construction cranes currently operate in the Gulf. In cooperation with national and international investors, the ruling family of H. H. Sheikh Muhammad bin Rashid Al Maktoum, Ruler of Dubai and Prime Minister of the UAE, erects futuristic projects one after the other in the desert sands. This boom also puts pressure on urban planners like Essa Abdul Rahman Al Dosari, CEO of the Public Transport Agency of Dubai's Roads & Transport Authority RTA: "For time reasons alone, we cannot come up with concepts based on gradual expansion when we plan our infrastructures. Instead, we have to start at zero and then go at it full throttle. This is why we aim











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at setting up a comprehensive system that meets the latest and highest technical standards presently available.”

For the time being, the most prominent and literally outstanding symbol of Dubai's urban development and the infrastructure challenges that come with it, is the Burj Dubai—the highest building in the world. With its shiny, silvery aluminium-glass curtain facade, the more than 800-meter-high super tower can be seen from very far away, piercing into the sky above the Gulf metropolis with its over 1.4 million inhabitants. By its height alone, the Burj Dubai is an eye-catching landmark. But it is only part of a huge construction site on which up to 20,000 workers are currently building a new city district that will soon be one of the most prestigious addresses in the world. It includes Dubai Mall, the world's largest shopping center, as well as a number of exclusive apartment complexes. The new project will also accommodate the Old Town, a residential area built in traditional Arabian style. Artificially made lakes, parks and a 3.5-kilometer boulevard are also part of the complex.

But Dubai's next superlative is already being planned. Under the auspices of Nakheel, the city's largest property developer, construction work for an even higher tower is already underway. Gigantic projects are not new to Nakheel: the company supervised the creation of three palm-shaped islands (“Palms”) off the coast of Dubai. A fourth one (“the World”), consisting of 300 artificial isles will represent the outline of all five continents like an overdimensioned globe. And with “Nakheel Tower,” the name of the future height record holder has already been decided. The new skyscraper will comprise four individual towers that are connected in several places. After its completion in approximately ten years, it will be the center of a new harbor district worth several billion dollars, called “Nakheel Harbour & Tower.” Its precise height is the subject of wild speculation. While initial rumors spoke of an incredible 1,500 meters, Nakheel's own statements mention a figure of “merely” approximately 1,000 meters (of which 200 meters are likely to consist of the antenna).

Abras on the creek—the last few reminders of a more traditional Dubai.



Despite this breathtaking growth, Dubai has managed to preserve some of its idyllic past. Along the creek, the sea inlet reaching eleven kilometers into the desert-rich mainland, ancient-looking wooden boats, the so-called dhows, are still loaded with goods destined for Iran or Basra. In between, flat taxi boats (abras) able to carry up to 20 people across the water, tug along. Along the shoreline, containers with chemicals, tires, boxes and packed-up refrigerators are stacked next to brownish jute sacks, waiting to be transported further inland by trucks.

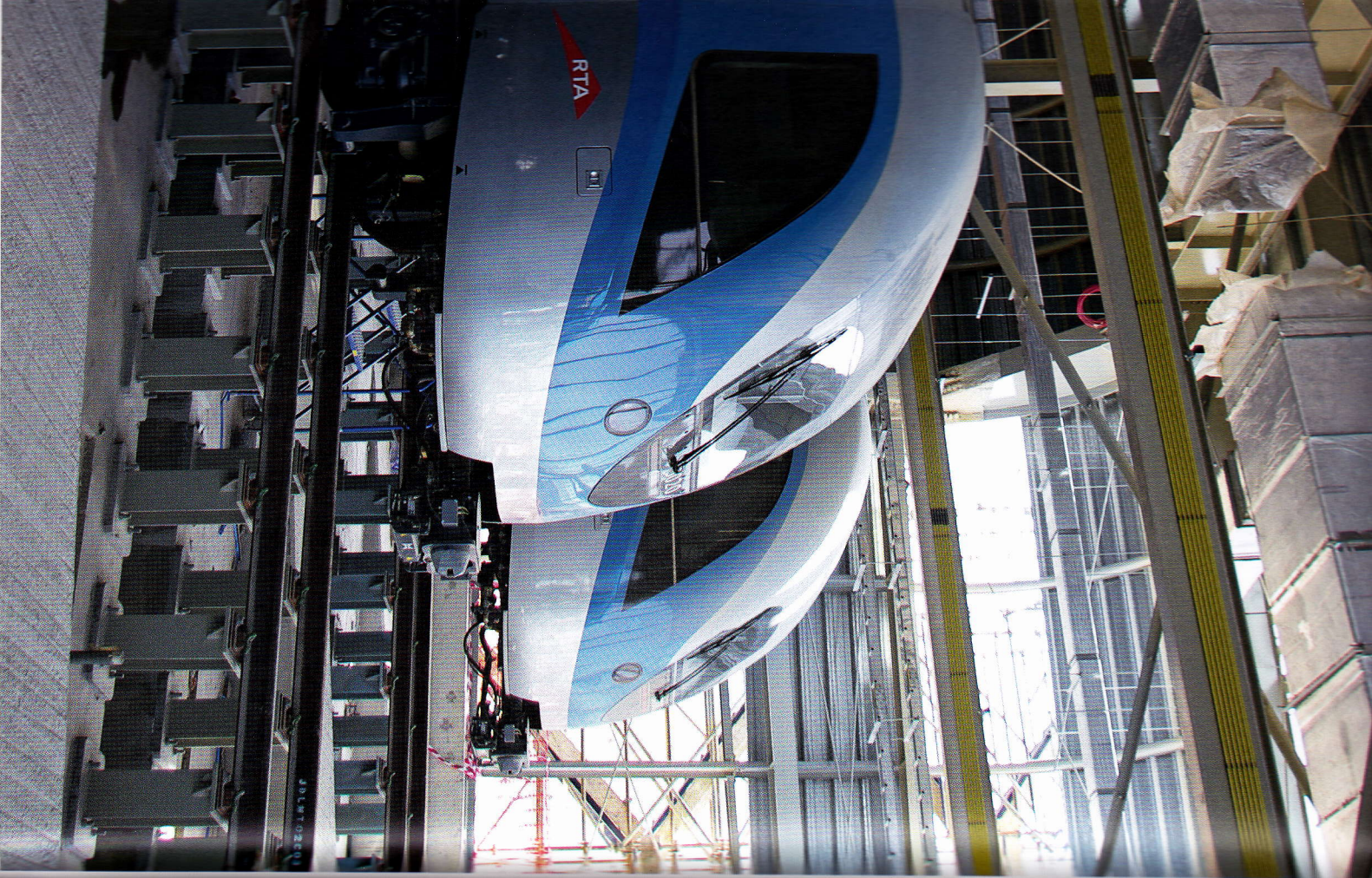
The creek, too, is surrounded by a tight mass of bold steel and glass construction. As a result of the rapid growth, space is at a premium—this also applies to the countless barges on the creek. The large, sea-going container ships are moored alongside huge freightliners in the modern offshore ports. But Dubai is the hub of the future not only on the water. The airport is booming, too. In recent years, the “axis of the Emirates” has grown by an average annual rate of 15 percent, and is expected to grow further. By 2010, the number of passengers will increase from currently 40 to 60 million per year—at least this is what the planners are forecasting. In order to comply with its increasing popularity as a business center and a tourist attraction, Dubai will not only expand its city airport. Close to the free trade zone Jebel Ali, construction for a second gigantic airport has already started. Upon its completion in 2030, the 33-billion dollars “Dubai World Central” with its six runways will be able to handle 120 million passengers per year.

A construction boom like the one currently prevailing in Dubai not only creates many thousand square meters of new residential and office areas, but also puts enormous demands on the infrastructure. What is needed most is a well-functioning public transportation system to counteract the increasing threat of a total gridlock on the roads. “We are putting all our efforts into implementing such a concept,” says Al Dosari. At the moment, individual traffic still dominates, leading to congested roads and tailbacks, especially during the rush hour. Only seven percent of all commuters in Dubai are currently made on buses, taxis

→ New metro lines, underground or, as shown here, elevated lines running parallel to Sheikh Zayed Road, form the backbone of a networked public transport system and are meant to prevent a complete gridlock.







or abras. “We will put an end to this,” states a determined Al Dosari and promises: “By 2022 we will have increased the share of public transportation to 30 percent.”

In order to reach this ambitious goal, the city administration is making huge efforts. As a backbone of a networked traffic system, several metro lines will be dug into the desert sands or raised above ground—like in Chicago and Hamburg. Two lines are already under construction: the 52.1-kilometer “Red Line” runs along Dubai’s most important axis, Sheikh Zayed Road, between Jebel Ali Harbor and Rashidya. The route will have 47 stops and offer passengers connection opportunities to a bus network that is being devised at the same time. Within five years, the number of buses on Dubai’s roads is expected to be five times more. In 2007, the Dubai Transport Authority, has ordered 626 buses. 225 from the Polish manufacturer Solaris and another 401 from the German MAN subsidiary Neoplan. Among them are 170 high-tech double-deckers, whose total height of 4.58 meters puts them among the largest such vehicles in the world, allowing even tall people to walk upright on the upper deck. Other luxuries: a particularly efficient, air conditioning system with added coolers turns the bus into a rolling refrigerator. Air curtains outside the doors block out heat. Stops are displayed by LED technology, and WLAN spots allow wireless surfing on the internet during the journey. In order to comply with cultural rules, the first three rows are separated from the rest of the bus by opaque glass and are reserved for women and children.

In 2008 Dubai ordered another 1,616 buses, the biggest single bus tender worldwide.

“Our demands are high,” says Al Dosari. “We intend to link the metro systems with the various bus routes so closely that we arrive at a comfortable, reliable and seamlessly integrated transportation network. We aim to minimize waiting times for passengers transferring from one system to the other. We want to make our public transportation system as attractive and comfortable as possible, so that users happily switch from their cars to our metros, buses, taxis and water taxis.”

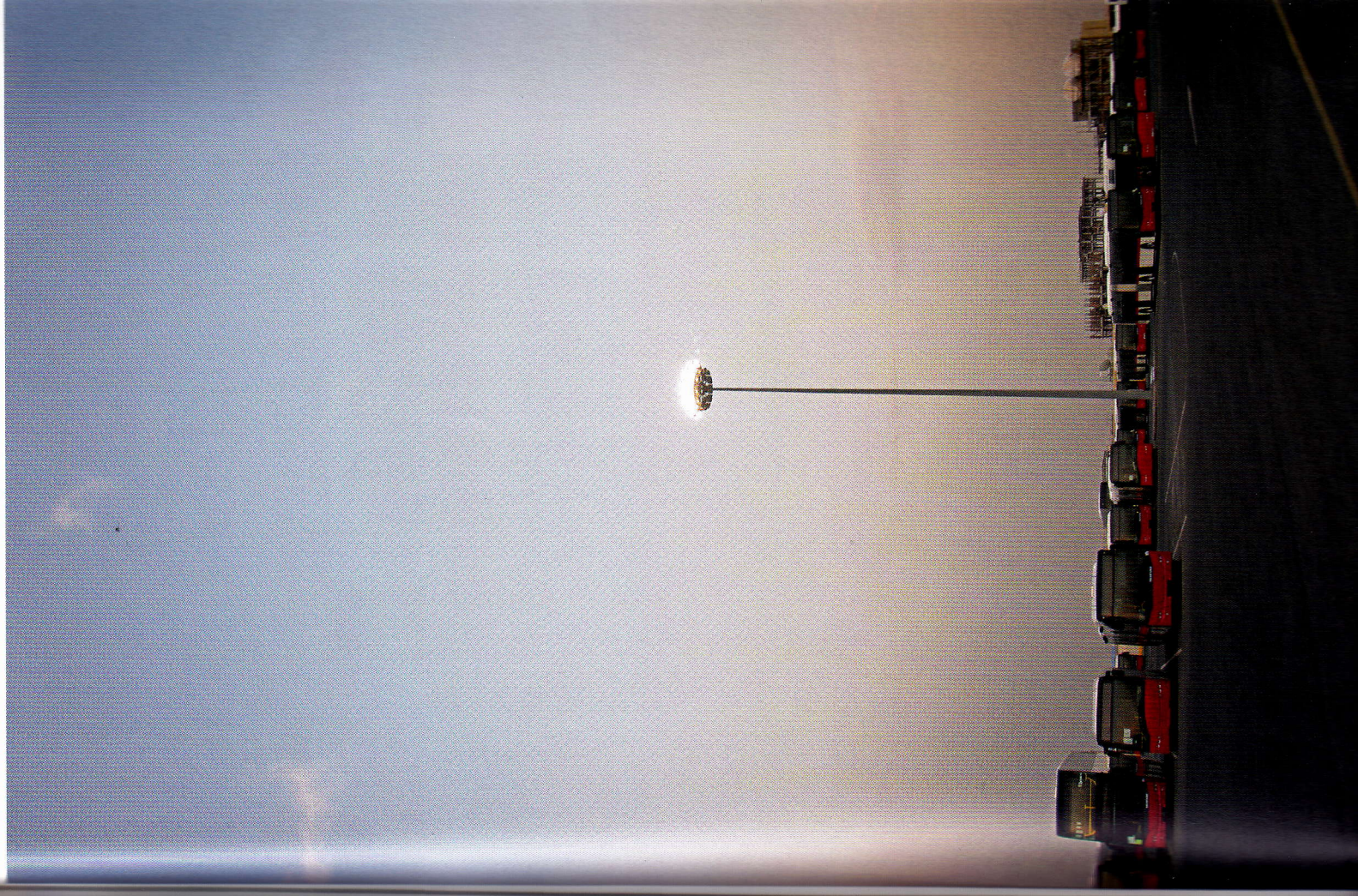
← Ready to go: the world’s most modern metro trains, driverless, running at 110 kilometers per hour—another superlative.



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These infrastructure measures are backed up by an abundance of IT systems and high-performance computers. An example is the installation of an electronic ticketing system issuing constant reports about the number of passengers in the metro trains and on the buses. “As a result we are always able to provide the correct number of buses and taxis needed to allow smooth transport connections for all passengers,” says Al Dosari proudly and promises: “Nobody in Dubai City will have to wait for his metro or bus for more than ten minutes.”











↑ Emirates Express: brand name for an intelligent transport system.

↖ A perfect example of modern infrastructure: the seamless interaction of metro trains, buses, water taxis and taxis makes public transport a truly attractive option.

The metro trains are among the most modern vehicles in the world: driverless, the five-car, 75-meter long trains will whiz along the rails at up to 110 kilometers per hour. 600 passengers can be transported simultaneously, with the trains offering first and second-class compartments, as well as an area reserved for women and children. Plasma screens display the route and offer information on other topics, for example the weather. Meteorological statistics are absolutely essential, not least because the summer temperatures in Dubai can be as high as 50 degrees Centigrade. The metro trains, too, will be comfortably air-conditioned. High-performance cooling systems will keep the temperature inside the train at a pleasant 23 degrees. The metro stations themselves and all transfer passages leading to connecting systems are also insulated from the outside



↑ With temperatures of almost 50 degrees Centigrade in summer, air-conditioned bus stops are not a luxury.

world and are climate-controlled. A worldwide first: a large percentage of the bus stops are furnished with air-conditioned waiting cabins. Al Dosari sums it up: "No other city in the world will offer such a high degree of comfort," this is his prediction of the brave new world into which Dubai will venture with its futuristic public transport concept.

Transcript by Georg Küffner