



## Your Oasis in the Desert

It is said that the Arabian horse has been domesticated centuries ago to protect bedouin riders crossing the vast deserts of the peninsula. Today, our engineering protects passengers against extreme environments.

Calling our train 'Hesan Alkhaleej', we see an analogy with the pure bred Arabian mares of former times. People riding this train can rely on our knowledge and dedication to arrive on time and in good shape, protected against a harsh world outside the windows.







#### Someone who cares

Passengers like to be surprised by useful detail from visionary industrial design, showing the extra care of people who know how to make a journey valuable. Quality rules here over quantity – no desperate attempts to draw attention, but clever details making all the difference.

Clever design creates more space and more capacity on the same footage, and it also opens a field of variations to give the operator opportunities for a customized appearance at reasonable costs.

Clever design makes travelling by train more attractive – much more than being chained to your car seat.

#### Seat comfort

Railway seats development has made considerable progress in recent years. The main trend: less space for the seat, more space for passenger. Seats can give passengers more legroom even at reduced seat pitch. Smart geometries derived from aircraft designs make every inch of previously unused space available for you while ergonometric design replaces bulky adjustment by kinetic mechanisms to make your seat fit like a glove. And new materials with better dry comfort on long trips.

## Luggage comfort

Whoever travels, carries luggage. One of the great advantages of rail travel over flying is unlimited luggage. But how to stow it without loosing comfort? Studies show that overhead luggage racks are mainly used for small items – lifting heavy luggage is not easy and bears risks when sitting under the rack. Placing heavy items on an empty seat or in the aisle is also no permanent solution. Similar to air travel, check-in luggage transported in separate luggage cars and small or sensitive luggage stored in floor mounted luggage racks yield a lot more seating space.

#### Work and entertainment

Once aboard, there is plenty of time since there is no need to concentrate on driving. Many features are available to put travel time to good use

- tables with notepad support
- power supply sockets at seat
- adjustable LED reading lightsRGB adjustable LED moodlight
- Internet access

## Relax and enjoy

Sit back and relax with adjustable cushions to support your body. At the time you are ready for refreshment, a range of catering solutions is waiting for you. And before, we can advise the caterer to ensure efficient service.

## **Family Matters**

Trains are perfect for large families – communicate and have fun during the journey, take a walk – many more possibilities than in a car or an aircraft. Imagine what comfort an exclusive First class might offer. And future oriented media servers to enjoy the latest blockbuster, and Gigabit WiFi ...

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# Everyone needs balance

As the region's commercial development moves forward, road and air traffic solutions come to their limits, with increasing road accidents, traffic jams and flight delays. It is about time to optimize the traffic system for the coming decades. Simple solutions to achieve good results in some areas will not do the trick. Many performance criteria need to be carefully balanced to achieve an optimum between comfort, transport capacity, travel performance, energy consumption, lifecycle cost and environmental impact.

The Hesan Alkhaleej train concept can help you find the right balance. Benefit from it.







#### **Desert resistant by Concept**

All traction and coach power is provided by two power cars. Concentrated equipment allows innovative cooling and air filtration. Stainless steel minimizes solar radiation and air conditioning power consumption.

Only top quality components with extreme endurance are used. But the desert environment is demanding, so we use parallel arrangement of critical components — if anything fails, there is backup to keep the

## **Maximum Flexibility**

Train length can be selected to suit the passenger demands, all vehicles in the train consist can be exchanged providing all options for future development in service – your imagination is the limit. In case of later electrification, the diesel power cars can be simply replaced by electric ones.

## **Maximum Reliability**

Only top quality components with extreme endurance are used. But the desert environment is demanding, so we use parallel arrangement of critical components – if anything fails, there is backup to keep the schedule. Like the traction – if any one motor fails, there are seven others to keep going. Even if one complete power car would fail, the other one could supply and move the train.

## **Efficient space**

The Hesan Alkhaleej is the favorite of business plans: our interior concept maximizes the passenger floorspace. Equipment is arranged in compact clusters to leave maximum space for passenger areas. Our extra wide cars provide high capacity in a luxurious setting with extra wide seats.

## **Efficient safety**

FRA approved crash energy management ensures passive collision safety. Safety related components are continually monitored online. Entrance doors with electromechanic drives protect passengers. Multi-layer vehicle controls feature fail safe structures. Backup batteries provide autonomous emergency power in each car.

#### **Efficient comfort**

Existing routes can be utilized without modifications, so our Hesan Alkhaleej features high total performance, not just the top speed. Flat entrance in all cars, flat floor, wide doors and passageways help to reduce dwell times. With our flexible interior system, the interior layout can be changed quickly.

## Spaceship

The train concept based on individual coaches not only gives you full control over train capacity and comfort, but also best utilization of the available train length.



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Mobility Division Otto-Hahn-Ring 6 81739 Munich, Germany

contact.mobility@siemens.com

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