

ROLLING INTO THE FUTURE



A Quarterly Newsletter from Rotem, Total Rail Systems Division

Hyundai & Kia Motors Group



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Following France, Germany & Japan

Rotem Passes 350 km/h Milestone

Rotem's new high-speed train passed a milestone test at midnight on Dec. 16, 2004, and succeeded to reach speeds of over 350 kilometers per hour, the first such trial since it was produced in June 2002.

South Korea became the fourth country to have a train run at over 350 kilometers per hour, reflecting its world-class train technology, according to the Ministry of Construction and Transportation.

Only France, Germany and Japan had exceeded the milestone previously. The test was executed on the Kwangmyong-Sodaejon railway section.

The Korean government and Rotem have spent about US\$200 million to develop the new high-speed train. Its body is made with aluminum to increase speed, while that of the KTX, Korea's express train, is steel. The new high-speed train can run at speeds 50 kilometers faster than the KTX.

Rotem said that the test is of high importance to Korea's high-speed train industry since a large percentage of core parts are being produced by Korean researchers.

The new high-speed train successfully passed speed tests at 300 kilometers per hour in August and 330 kilometers per hour in October.

In November, the train reached 343.5 kilometers per hour on the Kwangmyong-Sodaejon section.



Future Plan

- Stabilization test operation at 350 km/h in 2005
- Reliability, Availability, Maintainability & Safety (RAMS) test for commercial service
- Commercialization: On the Honam line (10 cars/trainset)
- Export: Successfully take 30% of the global market in the next 10 years

Welcome to Rotem and Our New Newsletter



As the recently appointed Vice Chairman of Rotem Company I like to take this opportunity to welcome you to our new quarterly newspaper. Here we will publish the latest news from our company and on our efforts outside our company, about its impact on our staff and our customers. We like this to become a bi-directional communication channel so we can serve you better and answer any questions you may have concerning our company and the services we provide.

Please don't hesitate to contact us. With me are CEO/Pres Pyung-Kee Kim and Senior Executive VP Yeo-Sung Lee. This team will lead our staff into the next phase of our corporate growth and with your help and consideration we will carry our mission successfully forward.

Soon-Won Chung / Vice Chairman & C.E.O.

Continued Interest in Rotem



I send my hearty applause to the launch of Rotem's first quarterly newsletter. My colleagues and I are always interested in the recent developments in Rotem and look forward to the first edition newsletter.

Shin, Kwang Soon

Administrator

Korean National Railroad

Exhibition



Rotem's MAGLEV (Magnetic Levitated Vehicle) train created a sensation at InnoTrans 2004 in Berlin, Germany which was held for one week, between September 21 and 26. Rotem exhibited its MAGLEV train, a standard EMU car, designed and built for European rail market and a EMU car delivered to Hong Kong, receiving lavish praise and complements from customers for its high quality and performance.

Rotem's MAGLEV train runs at a uniform distance of 10mm above the rails, propelled by a linear Motor and levitated by the attractive power of electro-magnets.

It is predicted to be the alternative urban mass transportation system in the foreseeable future. This was the fifth InnoTrans, an exhibition that is held every two years in Berlin, Germany, one of the world's most advanced counties in railway systems.

This was the first time Rotem participated in the InnoTrans and it was an excellent opportunity for all participants to grab an insight into the latest technologies and trends of the world railway market including PRT (Private Rapid Transit) and MAGLEV.

Rotem introduced its advanced technologies and new transportation systems including its own high speed trains (350km/h), and medium-low speed MAGLEV and others related products.

Rotem displayed its MAGLEV vehicle and standard EMU car on a 50m track in an outdoor display area and Hong Kong EMU car was featured at its exhibition booth covering 435m². During the fair, Rotem showcased its R&D and project performance capabilities

Rotem in InnoTrans

Faith and Reliability



Congratulations on your new quarterly newsletter. Rotem have been pursuing aggressively in potential new markets and I wish Rotem every success in it's quest to compete in these markets.

Mr. Dominic Au-Yeung
Manager - Operations Project
MTR Corporation, Hong Kong

Pioneering Technology



I would like to congratulate Rotem on the inaugural issue of Rotem's quarterly newsletter. I am looking forward to reading every issue to find about Rotem's activities. I expect this new publication will contribute to strengthening communication between our respective companies.

Michio Matsuda
Executive Managing officer,
Chief Operating Officer,
Power, Transportation & Plant Business Unit
Mitsui & Co., Ltd., Japan

Facilitating Communication



Congratulations on the launch of Rotem's newsletter, "Rolling into the future". It gives me great pleasure to learn of this opportunity of receiving recent news about Rotem's activities. I believe this newsletter will provide a platform for exchanging information and successful ideas.

Dimitris Panagopoulos
Managing Department III, Manager
Attiko Metro, Greece

Focus on New Markets



I would like to extend my warmest congratulations on the launch of Rotem's first edition of quarterly news letter. I am very excited to be informed about the progress of the world's leading supplier. We wish you all the best to your continued success in the future.

Mamoru Sekiyama
Corporate Vice President, COO
Marubeni Corporation, Japan

through its own light rail system, diverse electric equipments, bogies, signal equipments and so on.

In particular, Rotem's medium-low speed MAGLEV vehicle received lots of interests from over 3000 visitors from all over the world including Germany and Japan which already have their own MAGLEV technology. Rotem succeeded in developing MAGLEV vehicle in 1990's third after Germany and Japan. In August 1993, Rotem succeeded in operating piloted MAGLEV vehicle, HML-03.

This MAGLEV is a high tech vehicle and is sometimes referred to as 'The Dream Vehicle' for future transportation systems.

2004 in Berlin

Rotem has also made much progress in negotiations for a Maglev system in one of its customers during the Innotrans 2004. The customer initially intended to construct a Monorail system but is currently considering the Maglev system due to its enviroment friendly advantages and economic efficiencies

It would be the second commercialized MAGLEV system in the world following the Shanghai-Pudong International Airport MAGLEV line in China which adopted German technology.



Triangle Transit Awards Contract for DMU Rail Cars

The Triangle Transit Authority Board of Trustees in Research Triangle Park, N.C., voted Oct. 27 to award a contract of up to \$90.1 million to United Transit Systems, a consortium of Sojitz Corporation of America and Rotem Company, to supply up to 32 Diesel Multiple Unit rail cars for TTA's Regional Rail Transit System.

The 12-station, 28-mile Regional Rail Transit System from Durham to the Research Triangle Park, Cary, and Raleigh, N.C., is scheduled to begin operation in 2008.

Sojitz Corporation, headquartered in Tokyo, is one of the world's largest integrated trading companies. Rotem Company, headquartered in Seoul, South Korea, is one of the world's largest rolling stock manufacturers. Since 1964, Rotem has manufactured more than 32,000 railroad vehicles including both passenger and freight vehicles for U.S. clients.

In its contract with TTA, UTS will provide a minimum of 24 Federal Railroad Administration safety compliant railcars, configured as 12 married pairs, and an option for eight additional vehicles configured as four additional married pairs. If the full contract is exercised, the TTA DMU fleet provided by UTS will consist of 32 railcars, configured as 16 married pairs. Each married pair can carry 160 passengers seated.

APTA News - November 15th 2004



Rotem Wins US\$140 Mil Order From Iran

"SEOUL, Nov 2 Asia Pulse - Rotem Co., a South Korean rolling stock maker, said Tuesday it has secured an order to export diesel-powered rail cars worth 110 million euros (US\$140 million) to Iran.

"We will provide 120 diesel-powered cars and related technology to the Iran Khodro Rail Transport Industries Co. (IRICO), our Iranian counterpart," Rotem said.

Twenty-four units will be delivered to IRICO by 2006 and the remainder will be made in Iran with the help of Rotem technology by 2008.

IRICO will also pay royalties for the diesel car manufacturing technology to the Korean firm later.

Rotem is now bidding to supply 160 electric-powered cars for the third subway line in the Iranian capital of Tehran, and is in talks with IRICO on providing 210 others for the No. 1 line.

"We hope to use this order to make inroads into Iran's rolling stock industry, worth \$1 billion in total, which has been dominated by China and Germany so far," said an official of Rotem.

Rotem was launched through a merger of the rolling stock divisions of Hyundai, Daewoo and Hanjin Heavy Industries in July 1999."


Asia Pulse - November 2nd 2004




Rotem Ranks 3rd in Global Metro System Supply: SCI

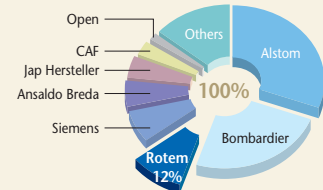
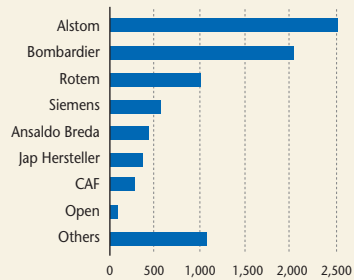
There are more than 100 cities in the world with a metro system and the forecasts for the future market development are extremely positive.

SCI Verkehr GmbH, an independent consulting firm specializing in traffic engineering and transport industry, presented a "Metro Vehicle Market Study" in September 2004. Studies showed Rotem ranked third in terms of market share between the year 2000 till 2005. Results of this analysis show that...

 is the Korean market leader in manufacturing Metro EMU vehicles and is expanding this achieved capability abroad.

 is aggressively bidding in the overseas market with emphasis on value for price and quality, successfully securing projects in Hong Kong, India, Athens and Istanbul.






Supply record & market share (Year 2000~2005)



Source : SCI Metro Market Study(Sep. 2004)

Rotem Metro Vehicles Supply Performance

Metro Vehicle

| Overseas | | Domestic | |
|--|--|---|---|
|  | <p>Attiko Metro (Greece) Dual Voltage Power Supply</p> <ul style="list-style-type: none"> • Production Period: 2003~2004 • Max. Speed: 120(AC)/80Km/h • Quantity: 84(DC), 42(DV) cars • Train Formation: 4M2T • Main Power: AC 25kV, DC 750V |  | <p>Gwangju Metro #1 Aluminum Carbony</p> <ul style="list-style-type: none"> • Production Period: 2002~2003 • Maximum Speed: 80 Km/h • Quantity: 92 cars • Train Formation: 2M2T/3M3T • Main Power: DC 1,500 V |
|  | <p>MTRC Hong Kong Metro RAMS, Fire, Noise EMC Tech.</p> <ul style="list-style-type: none"> • Production Period: 2001~2002 • Maximum Speed: 80 Km/h • Quantity: 104 cars • Train Formation: 6M2T • Main Power: DC1,500V |  | <p>Daegu Metro</p> <ul style="list-style-type: none"> • Production Period: 2004~2005 • Maximum Speed: 100 Km/h • Quantity: 168 cars • Train Formation: 4M4T KNR/JIS • Main Power: DC1,500V |
|  | <p>LRTA Manila Metro #2 (Philippines) ATC/ATC/TCMS Applied</p> <ul style="list-style-type: none"> • Production Period: 2002~2003 • Maximum Speed: 80 Km/h • Quantity: 72 cars • Train Formation: 4M • Main Power: DC 1500V |  | <p>Busan Metro #3</p> <ul style="list-style-type: none"> • Production Period: 2004~2006 • Maximum Speed: 80 Km/h • Quantity: 80 cars • Train Formation: 2M2T/3M3T • Main Power: DC 1,500V |
|  | <p>DMRC Delhi Metro (India)</p> <ul style="list-style-type: none"> • Production Period 2002~2005 • Maximum Speed: 90 Km/h • Quantity: 240 cars • Train Formation: 2M2T • Main Power: AC 25kV |  | <p>Daejeon Metro #1</p> <ul style="list-style-type: none"> • Production Period: 2004~2006 • Maximum Speed: 80 Km/h • Quantity: 84 cars • Train Formation: 2M2T/3M3T • Main Power: DC 1,500V |

Athens Metro Line 2, 3

Rotem Clinches Foothold in the “Motherland of Rail” Europe

Debut at the 2004 Summer Olympic Games, Athens Greece

With a national gross income of 12 thousand dollars, of which tourist incomes compose half, a festival of all nations, the Olympics was held in August 13th till the 29th 2004. It has been more than 10 decades since the first Olympic Game was held in 1896. The Greeks undertook a nationwide overhaul to prepare for this global event.



Among the projects was the construction of the subway line 2 and 3 to facilitate tourist and local citizen's convenience to view the Olympic Game. Additional trains were required in order to maintain uniform train schedules. Greece Railways called for bids to procure these trains with a time schedule for delivery and operation before the Games and as predicted all major European rolling stock manufacturers joined the competition. In this jungle of competition, there was a small oriental company whose name was not well known. It was the Korean rolling stock manufacturer, Rotem.



Greece Railways called for bids to procure these trains with a time schedule for delivery and operation before the Games and as predicted all major European rolling stock manufacturers joined the competition.

Korea, Small Oriental Country pulled down the EU barrier

Rotem participated in this bid through a consortium with Hanwha corporation. Other than the Hanwha-Rotem consortium there were two other European consortiums that participated in this bid. Another disadvantage for Rotem was that 90% of the finance for the Athen's EMU project was from the EU. The results of technical and price evaluation of proposals from the participants decides the winner and award of this EMU project. Anyone would think that this would be as the Korean phrase describe, "hitting at a rock with an egg".

But results of the technical and price evaluation was astonishing. The authority selected the Hanwha-Rotem consortium after price evaluation and the contract for the Athens EMU project was finally concluded in April 2002. It was a project of 102 EMU vehicles with a total amount of 143.5 million euros.





Now Korean rail vehicle is ready to be the feet for Athens citizens and Olympic Games tourists, transporting them to every part of the city and sites of the Olympic Games.

Establishing Trust in the European Market, Problem of Delivery and Weight

Two difficult conditions which the authority demanded was delivery and weight. Delivery and test commissioning had to be completed before the Olympic Games and the vehicle weight had to be below 91.86 tons. Particularly, a penalty of 300 euros was to be imposed for each kilogram in an excess of the target weight.

In July 2002, there was supplementary contract where the quantity for DC voltage vehicles was reduced from 102 to 84 vehicles and 42 AC/DC dual voltage vehicles were included. The total contract amount was increased to about 200 million euros. But the important problem of the supplementary contract was that the authority demanded the delivery for the AC/DC dual voltage vehicles first before Olympic Games. This triggered an alarm for the Design team, already in the design process of the DC single voltage vehicles.

One of the design difficulties for this project was the development of components for a totally different system. The domestic rail vehicles collect power through pantographs mounted on the roof, whereas the existing system uses third rail current collection method from the third rail power supply. However, Athens new AC/DC dual voltage vehicles require both current collection methods from dual voltage power feeding systems.

Thus the development of new components was inevitable. It was almost impossible to design, develop, deliver and test the vehicles within 2 years. The employees at this company overcame these difficult situations by enduring their limits and even turned in their summer vacations.



Providing the feet for the locals at Athens, Greece



On November 17, 2003 the first 2 trainsets, 12 vehicles, was successfully shipped in Masan port. And in February 2004 the vehicles began test operations in Athens. Finally the extension of the Athens Metro opened and the Korean rail vehicle departed from Sepolia depot. As the rail vehicle stopped at Sepolia station, passengers began boarding the new clean-design rail vehicle. Now Korean rail vehicle is ready to be the feet for Athens citizens and Olympic Games tourists, transporting them to every part of the city and sites of the Olympic Games.

ROTEM in Berlin, 2004

*Greeting of the Season and..
Best Wishes for the New Year*



“Thank you for your continuous interest and support for Rotem Company.

We wish you a prosperous New Year in 2005.



Rotem will continue to do our best to meet your expectations.”



Rotem Company

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