



LRTC - Light Rail Transit Consultants





LRTC - At a Glance

- Founded in 1985
- JV of major public transit consultants
- Fully independent
- Total staff: 120
- Operational experience
- All transport modes
- Numerous international reference projects



Light Rail Transit Consultants Resources of transport know-how



Nuremberg



Duesseldorf

Transit authorities
Operating companies
Engineering firms
Consultants

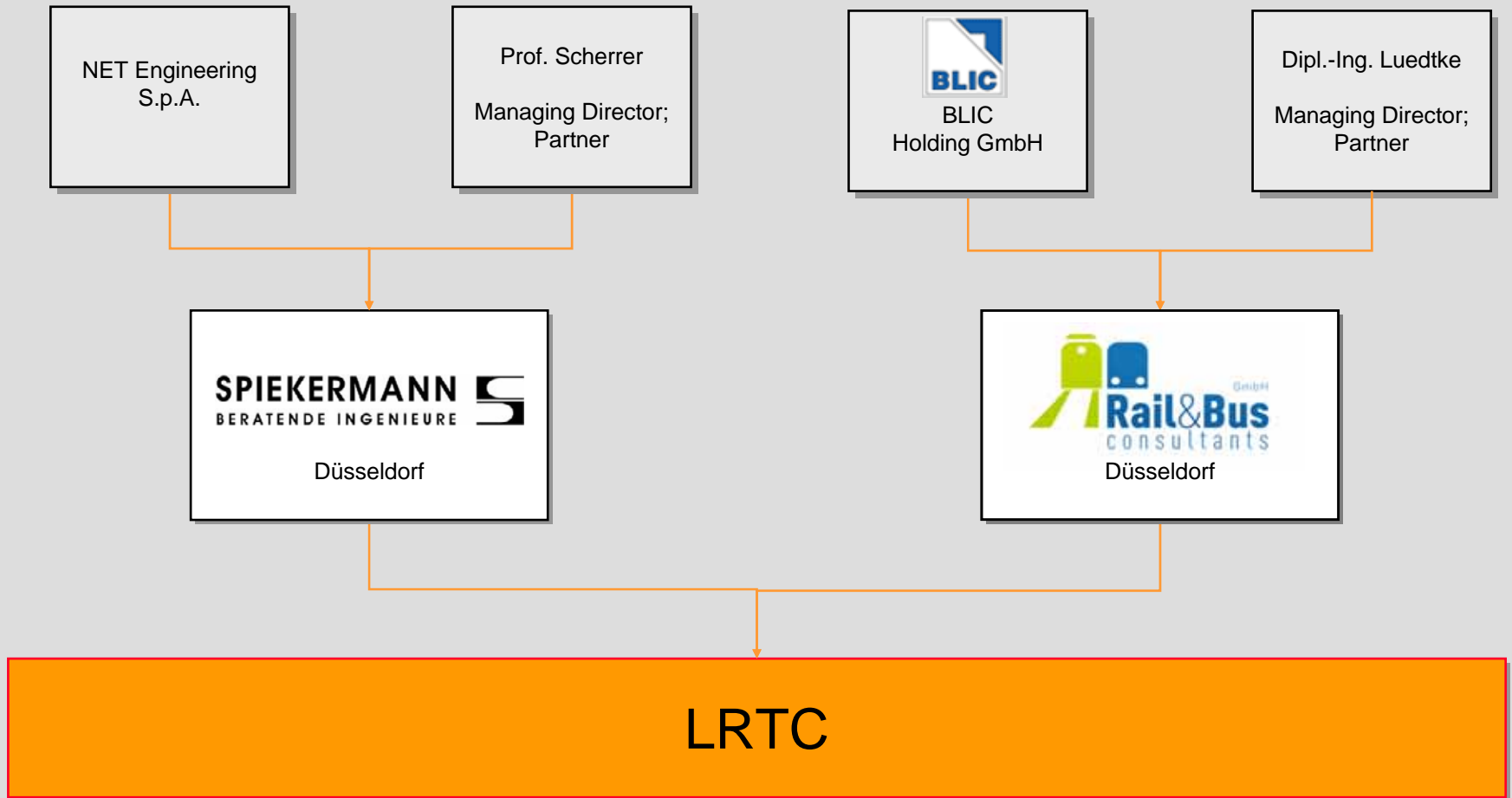


Hanover

- Management, engineering and marketing competences



LRTC Shareholders



Light Rail Transit Consultants Solutions For Urban Transport Problems

Consulting

- Operational Concepts
- System Layouts
- Environmental Appraisals
- Stations and Transfer Facilities
- Route and Track Alignment
- Signalling and Communications
- Electric Power Supply
- Rolling Stock
- Depots and Workshops
- Traffic Telematics



Traffic Planning

- Market Surveys
- Transportation Plans
- Feasibility Studies
- Cost-Benefit Analyses
- Design Standards
- Tariff Structures

Light Rail Transit Consultants Solutions For Urban Transport Problems

Design & Engineering

- Systems Engineering
- Project Management
- Tendering and Contracting
- Site Supervision
- Factory Inspections
- Marketing Concepts



Operation & Maintenance

- Operation Start-up
- Management Assistance
- Know-how Transfer
- Rules and Regulations
- Operating Procedures
- Staff Training



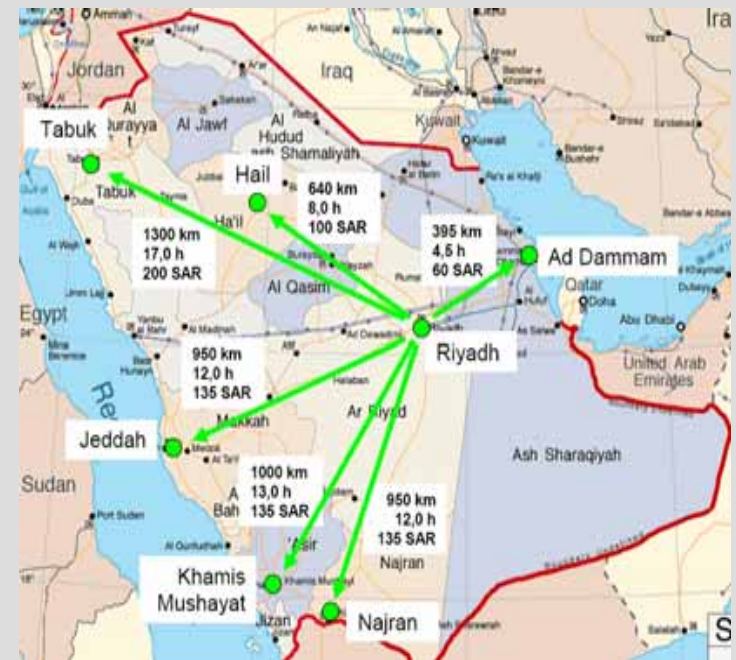
Clients of LRTC

- Municipalities
- Governmental authorities
- Finance providers
- Transport operators
- Suppliers
- Turn-key consortia



Privatization of Intercity Bus Passenger Services in the Kingdom of Saudi Arabia

- Development of concession model for the intercity bus transportation market
- Market survey & route bundling
- Elaboration of contractual framework and detailed specifications for
 - fares
 - operation concept
 - vehicle standards
 - staff qualification
 - infrastructure requirements
- Tender preparation
- **Client:**
Ministry of Transportation, KSA
- **Work period: 2008**





Riyadh Bus Transit Design Project

- Selection of bus transit corridors, network design
- Preliminary study, detailed design & tender preparation
- Environmental appraisal
- Cost-benefit analysis
- Marketing concept & detailed business plan
- Organizational & management support
- **Client:**
Arriyadh Development Authority
- **Work period: 2007-2008**





Passenger-Transport-System, Airport Frankfurt M.

- System design (system layout, comparison, assessment)
- Preparation of tender process (Preparation of tender documents, publication / selection of bidders)
- Assistance during tender process (Verification / assessment of bids, consulting concerning terms of contract)
- **Client: Fraport AG, Frankfurt**
- **Work period: 2005 - 2007**





Bus Transportation Master Plan, Dubai

- Vehicle Types and Fleet Size
- Technical Specifications for all Future Bus Types
- Bus Procurement Tender Documents
- Tendering Support
- Concept on Innovative & Environmental Transport Technologies
- **Client: RTA, Dubai Road & Transport Authority**
- **Project Period: 2006 - 2007**





LRT RijnGouweLijn Oost Leiden/ Netherlands

- Combined LRT Operation on Light and Heavy Rail Infrastructure
- Feasibility Study and Layout Concept
- Preliminary Design
 - Track Layout & Alignment
 - Depot & Workshop
 - Electrical & Safety Engineering
 - Telecommunications
- Risk Assessment
- Bill of Quantities
- **Client: Projectbureau RijnGouweLijn**
- **Project Period: since 2004**





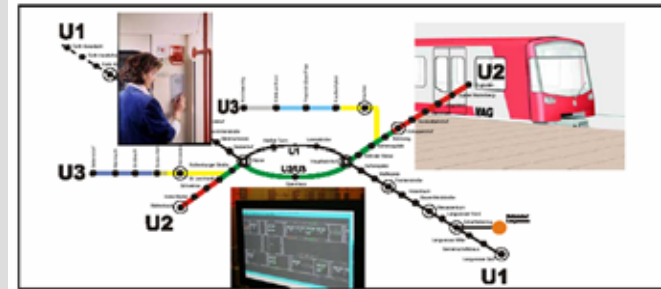
Low Floor Tram Procurement, Innsbruck

- Technical Specifications and Contractual Provisions
- Public Tender Process Preparation and Realization
- Bids Assessment
- Pre-Contractual Negotiations Client Support
- Construction Supervision/ Acceptance Tests
- **Client: IVB, Innsbrucker Verkehrsbetriebe, Austria**
- **Project Period: 2000-2008**



Driverless operated subway system, Nuremberg

- System specification
- Draft of technical specification for vehicles, track equipment and stations
- Fire protection concept development
- Implementation concept development
- Development of operating instructions
- **Client: VAG**
Verkehrsaktiengesellschaft Nürnberg
- **Work period: 1999-2005**



Suspension commuter railway, Wuppertal

Driverless vehicles specification

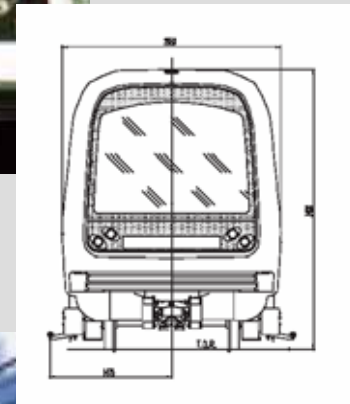
- System review
- Vehicles and automatic operation technical specification
- Elaboration of specification requirements for EU-wide call for tenders
- Profound study of
 - feasibility / reliability
 - safety
 - life-cycle costs
- **Client: Wuppertaler Stadtwerke AG**
- **Work period: 2000 - 2003**





Automatic Metro Copenhagen / Denmark

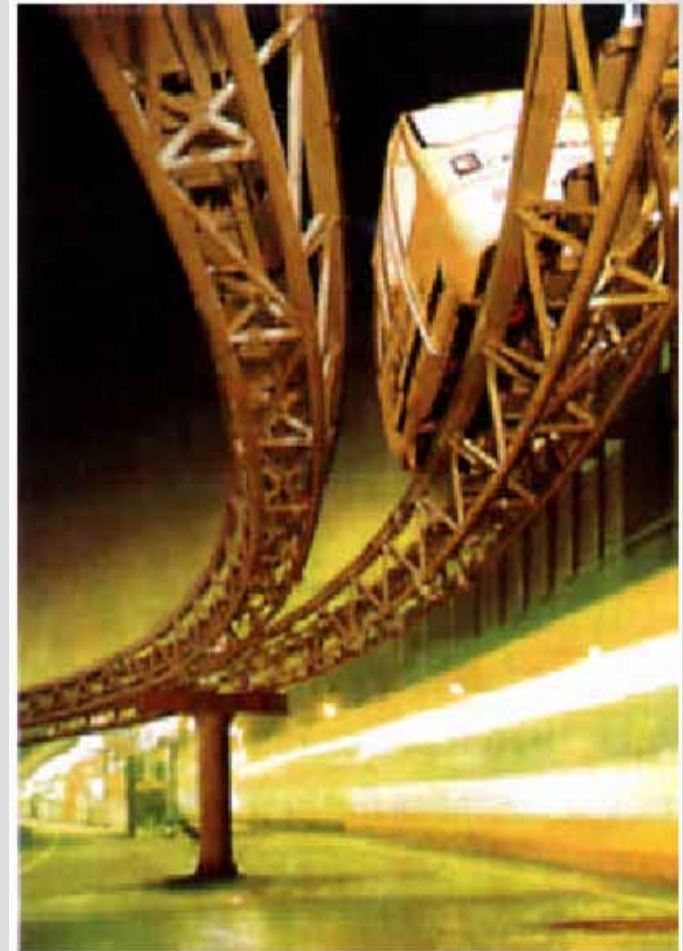
- Technical system specification (partly)
- Special expertise of automatic technology and vehicle protection
- Bid assessment
- System integration concept
- Vehicle quality inspection
- **Client: Ørestad**
- **Work period: 1996-1999**





Automated passenger transportation system World fair EXPO 2000, Hanover

- Market survey and analysis of suitable systems, technologies and suppliers
- System concept of internal development and external integration of EXPO grounds
- Elaboration of tender documents
- Organization of negotiations with bidding companies
- **Client: EXPO 2000 Hannover GmbH**
- **Work period: 1995-1996**





High-Performance LRT Guadalajara

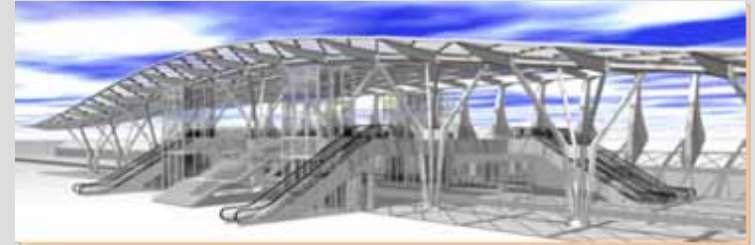
- System concept
- Preliminary + detailed design
- Component specification
- Interface co-ordination
- Vehicle and crew scheduling
- Support of operation
- **Client: Siemens AG**
- **Work Period: 1987-1995**





Turn-key Infrastructure Hannover

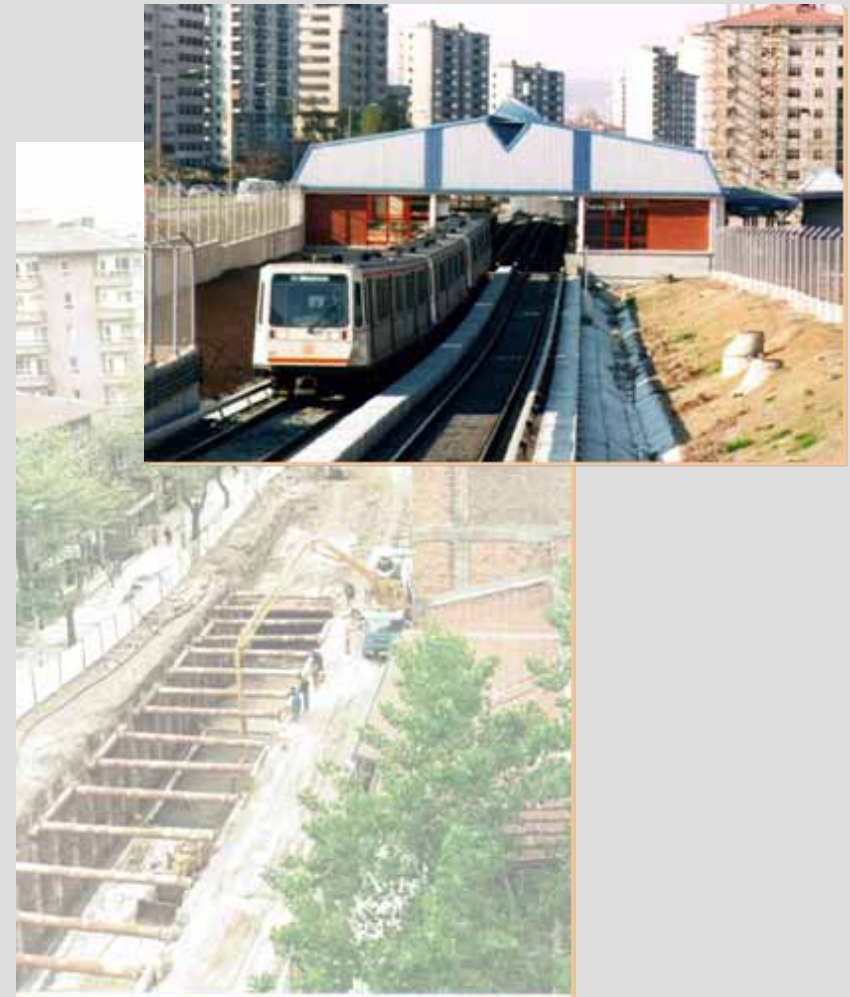
- Extension of mixed tunnel / at grade system
- New LRT line of 10 km linking Hanover city and EXPO 2000 grounds
- Construction volume 1995-2000: US \$ 450 million
- Public-private partnership for design & implementation
- Hand-over in ready to run condition
- **Client: üstra
Hannoversche Verkehrsbetriebe AG**
- **Work period: 1994 - 2000**





“Ankaray” Metro System

- All design phases for civil and electro-mechanical works
- From preliminary design to commissioning
- Interface co-ordination
- Staff training
- Turn-key hand-over of system
- Support of 1st year operation
- **Client: Siemens AG**
- **Work Period: 1991-1997**





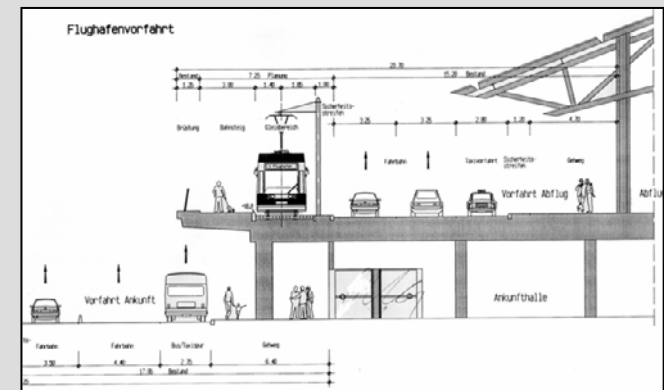
Light Rail Bankability Study for Kraków / Poland

- Investigation of project status
- Analysis of alignment, operational concept, ridership forecast, cost estimation
- Assessment of economic viability and bankability
- Institutional support for bank
- **Client: EBRD**
- **Project Period: 2003**



Light Rail Transit Airport Hamburg

- Pre-Design of a Light Rail connection between the northern city area of Hamburg and Hamburg airport
- Synopsis of possible alignment-solutions
- Integration into the airport-terminal (at grade and below-ground solutions)
- Environmental analysis
- Cost-estimation
- **Client: City of Hamburg**
- **Work period: 1998 - 1999**





Underground Light Rail Stations Düsseldorf

- Design and construction supervision of electrotechnical equipment for the underground extension of the Light Rail System (2.1 km in length, 3 underground stations) including
 - ➔ traction power supply
 - ➔ catenary
 - ➔ lighting
 - ➔ cabling for high and low voltage
- **Client: City of Düsseldorf**
- **Work period: 1998 - 2002**



Light Rail Transit Consultants

Location of selected project references



● Feasible, advanced and sustainable solutions



Light Rail Transit Consultants

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