

UNECE-Conference (Research & Development – Rail Roads) WKO – Challenges in Infrastructure Sector Turkey



ILF Ankara, Bernhard Buchner / Director Transportation (28.03.2012)

The ILF Group

General Presentation



■ The companies

- Established by Mr. P. Lässer in 1967,
In 1969 Mr. A. Feizlmayr joined the company ⇒ „ILF“
- Leading international, independent engineering and consulting firms (100% privately owned)
- Completely independent with no affiliation to construction companies, suppliers or financial institutions → optimized project solutions tailored to the client's needs
- Interdisciplinary engineering and management services for complex industrial and infrastructure projects (“one stop shopping”)
- Striving for market leadership through quality
- Safety, occupational health and environmental compatibility are of utmost importance



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General Presentation

■ Clients and partners

- Long-term business relations are a top priority!
- Private organizations
such as major oil and gas companies,
project developers, EPC companies, construction companies
- Public administrations and bodies
on multinational, national, provincial and community level
- International / multilateral financial institutions
such as World Bank, ADB, EBRD, EIB, KfW

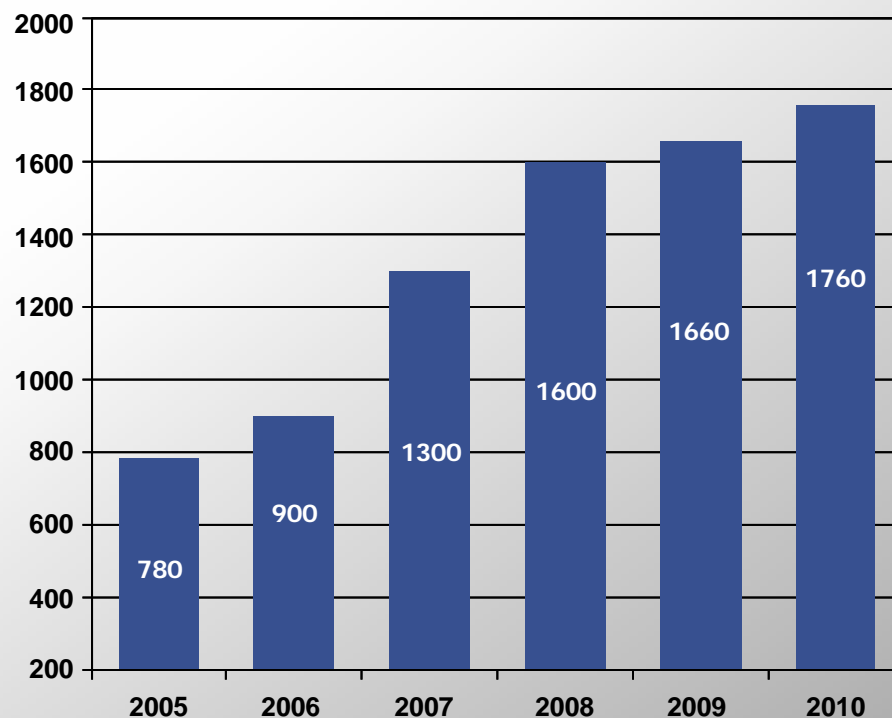


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General Presentation

■ Staff

- Long-term partnership with all employees
- Interdisciplinary composition of ILF's project teams

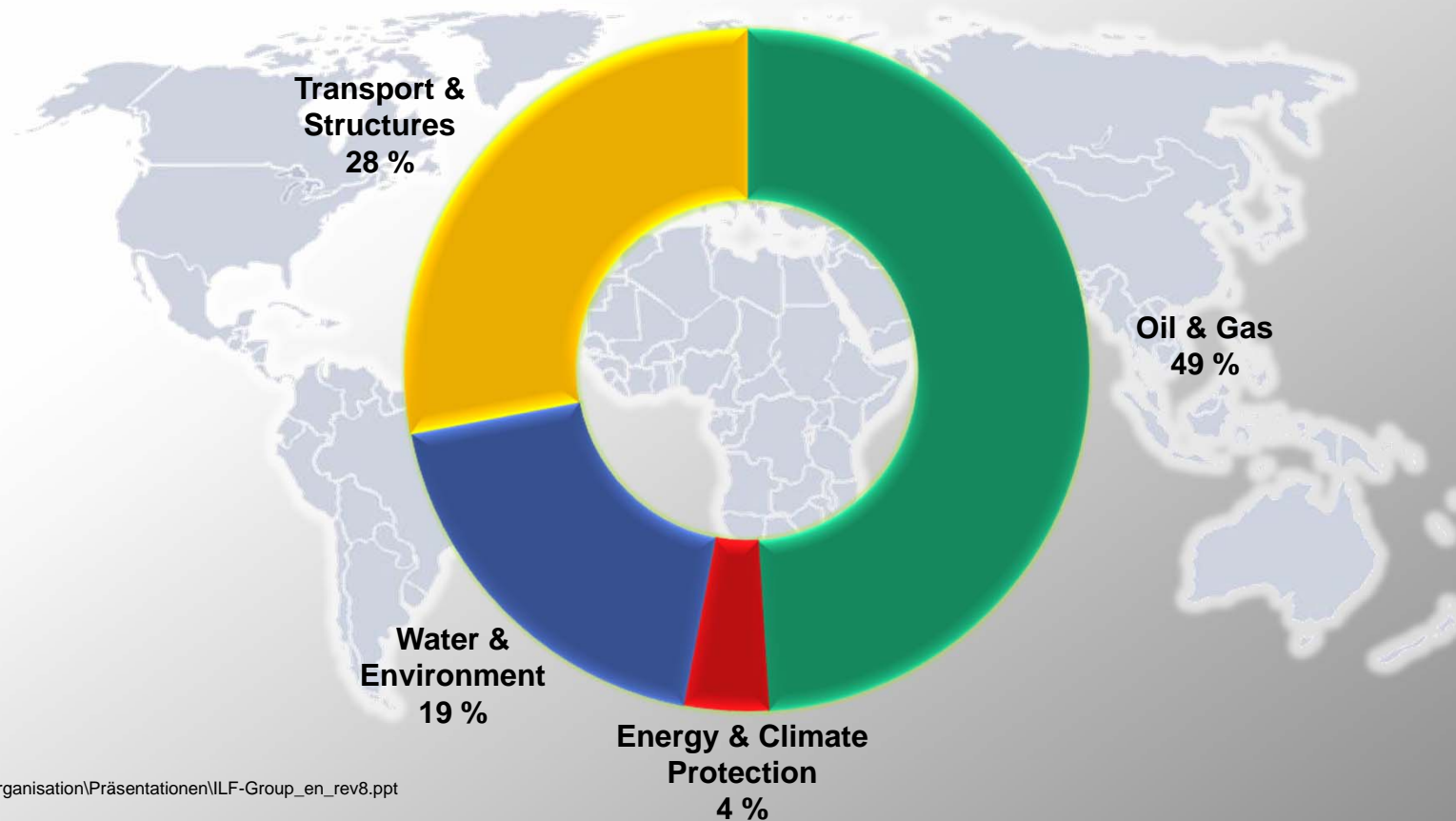


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General Presentation

■ Turnover

- Consolidated turnover 2010: EUR 168 million

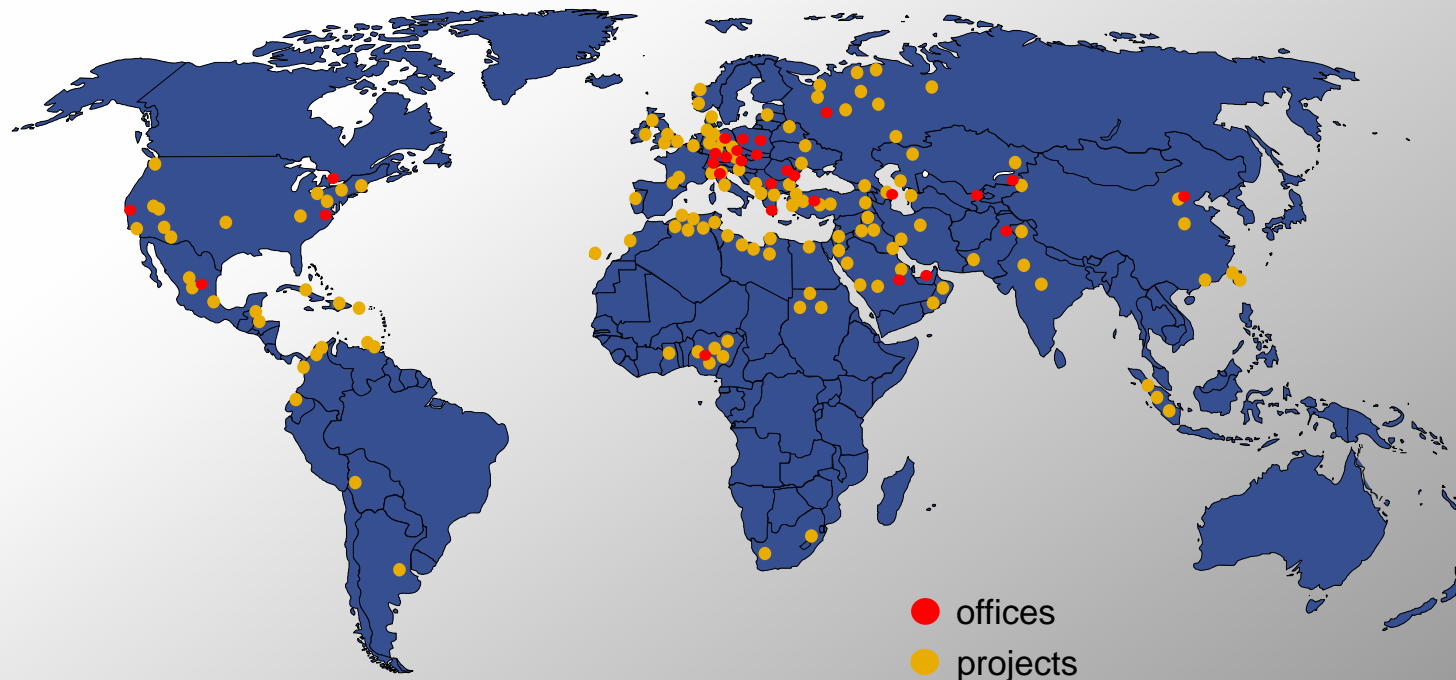


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General Presentation

■ Offices and projects

- Head offices in Innsbruck and Munich and more than 30 branch offices and subsidiaries worldwide
- Over 4,500 successful projects



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General Presentation

■ Business areas

Oil & Gas



- Production facilities for oil and gas
- Pipeline systems
- Tank farms and underground storage facilities
- Refineries and petrochemical plants

Water & Environment



- Water supply
- Wastewater treatment and disposal
- Waste treatment and disposal
- Hydropower, dam and river engineering

Energy & Climate Protection



- Thermal power plants
- Sea water desalination plants
- Renewable energy
- Climate protection
- Electric transmission and distribution systems

Transport & Structures



- Airports
- Roads
- Railway systems
- Tunnels and caverns
- Buildings and structures
- Alpine engineering

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Business area: Oil & Gas

■ Production facilities for oil & gas (onshore and offshore)

- Processing plants, e.g. CPF & GOSU
- Gas field and gas-lift compressor stations
- Oil processing facilities incl. desalination and desulphurisation
- Gas treatment facilities incl. dehydration and sweetening
- Produced water treatment facilities incl. desulphurisation
- Field flow lines, production manifolds and distribution systems incl. pumping stations
- Water (incl. sea water) and gas re-injection facilities
- Chemical injection facilities
- Service water and seawater treatment facilities
- Well completion



■ Renewable energy

- Photovoltaic power plants
- Combined heat and power biomass plants (biomass CHP)
- Hydropower plants (→ Business area Hydropower)
- Concentrated solar power plants
- Biogas plants
- 2nd generation biofuel production facilities
- Waste treatment facilities (“waste to energy”)
- Geothermal power plants
- Wind farms



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Business area: Water & Environment

■ Water supply

- Water resources development
- Water treatment plants
- Water transmission systems
- Water reservoirs
- Drinking water distribution systems

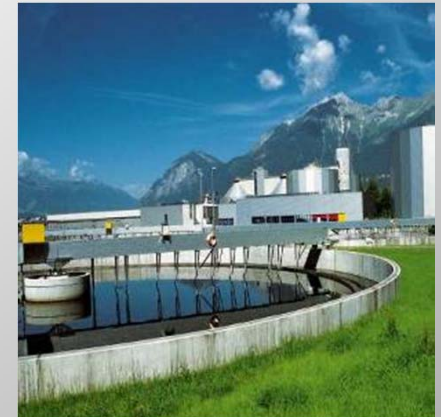


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Business area: Water & Environment

■ Wastewater treatment and disposal

- Sewer systems
 - Sewage pumping stations
 - Combined and separate sewer systems
 - Stormwater treatment facilities
- Wastewater treatment plants
 - Domestic and industrial wastewater treatment plants
 - Advanced treatment (tertiary treatment and nutrient removal)
 - Membrane treatment and water reclamation
- Sludge treatment plants
 - Anaerobic and aerobic sludge stabilisation
 - Biogas utilization in combined heat and power plants
 - Sludge thickening and dewatering
 - Sludge drying and sludge incineration

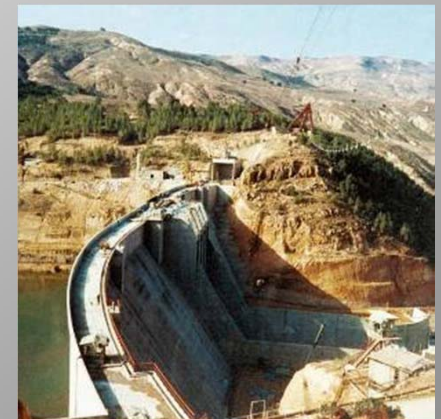
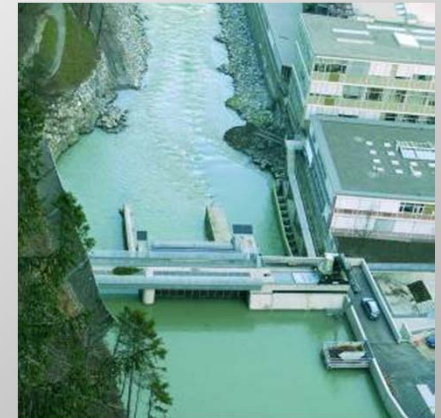


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Business area: Water & Environment

■ Hydropower, dam and river engineering

- Hydropower plants
 - Low-head plants
 - High-head plants
 - Pumped storage plants
 - Drinking water power plants
- Dams and weirs
- River engineering works



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Business area: Transport & Structures

■ Airports

- Runways, taxiways, aprons
- Passenger terminals, cargo facilities, hangars
- Air traffic control building, rescue and fire-fighting services
- Fuel farms and fuel hydrant systems
- Airport lighting, NAVAIDS, aircraft stand equipment
- Baggage handling systems, security systems



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Business area: Transport & Structures

■ Roads

- Motorways
- Trunk roads
- Urban roads
- Access points, roundabouts, crossings
- Toll systems
- Traffic management systems



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Business area: Transport & Structures

■ Railway systems

- Conventional and high-speed railway systems
- Tramways and rapid transit systems
- Underground railways and commuter rail systems
- Special railway systems
 - Ropeways, funicular railways
 - Peoplemovers
 - Monorails
 - Suspension railways



■ Railway systems: references

- Upgrade of Vidin – Sofia Railway Line, (270 km), Bulgaria
- New Havelia – Khunjrab Railway Line, (750 km), Pakistan/China
- New Nuremberg – Ingolstadt High-Speed Railway Line, (83 km), Germany
- New Vienna – St. Pölten Railway Line, (50 km), Austria
- Metro Warsaw, Line 2, Poland
- Tramway Lines in Innsbruck and Linz, Austria
- Suburban Train Guadalajara, Mexico
- Marchegger Ast Railway Line (56 km), Austria
- Tbilisi Railway Bypass, Georgia
- Nordkettenbahn funicular and cable car in Innsbruck, Austria
- San Agustin Metro Cable, Caracas, Venezuela



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Business area: Transport & Structures

■ Tunnels and caverns

- Road tunnels
- Railway tunnels
- Adits
- Shafts
- Caverns
- Operational and safety equipment
- Ventilation systems



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Business area: Transport & Structures

■ Buildings and structures

- Industrial buildings, commercial buildings
- Office buildings
- Tourism infrastructure
- Road bridges, railway bridges
- Green bridges
- Avalanche sheds
- Noise protection structures



■ Alpine engineering

- Project design of ski and tourist resorts:
 - Master planning incl. market analyses, tourism concepts, feasibility studies, financial analyses, investors conferences
 - Conceptual design and permit application design, tendering, contracting and project implementation incl. commissioning
- Snowmaking systems:
 - Storage reservoirs with water intakes
 - Pumping, pressure-reducing and compressor stations
 - Water, power and compressed-air lines
- Ski slopes



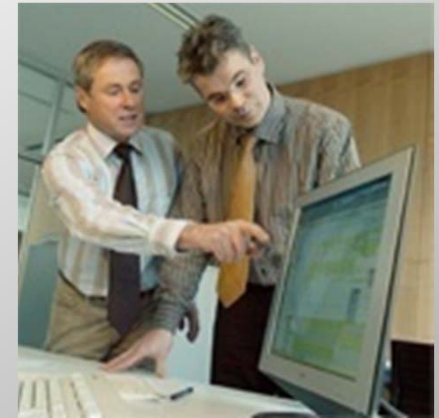
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General Presentation



■ Special services

- Geology and hydrogeology
- Geotechnical engineering and soil mechanics
- Urban and environmental planning
- Design of load-bearing structures
- Information management and GIS
- Automation and SCADA
- Telecommunications
- Safety and risk management
- Financial analysis and institutional strengthening
- Project development



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General Presentation

■ Geology and hydrogeology

- Geological and hydrogeological exploration concepts
- Geological and hydrogeological studies
- Geological and hydrogeological documentation and site services
- Geohazard investigations
- Monitoring of ground and surface water resources

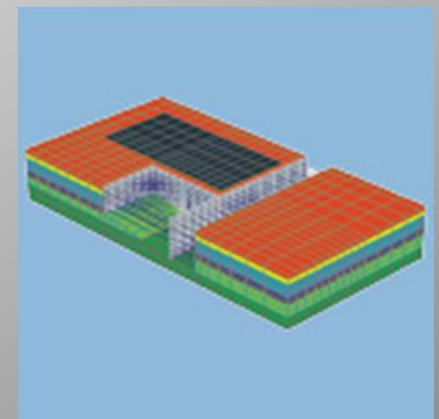


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■ Geotechnical engineering and soil mechanics

- Geomechanical design
- Geotechnical calculations
- Geological and geotechnical documentation, site services and consulting services
- Foundation engineering consulting services
- Stability and serviceability analyses



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General Presentation



■ Urban and environmental planning (I)

- Spatial resistance analyses
- Urban studies
- Social impact studies
- Spatial impact assessments
- Regional planning procedures
- Special-purpose concepts (tourism concepts, traffic concepts, etc.)
- Public involvement procedures
- Natural hazard management



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General Presentation

■ Urban and environmental planning (II)

- Ecological mapping
- Environmental impact assessment
- Management of permitting process
- Environmental impact assessment and Natura 2000 assessment
- Planning of mitigation and compensation measures
- Ecological mitigation measures
- Emission and imission calculations
- Ecological supervision on construction sites



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■ Design of load-bearing structures

- Structural design
- Structural analysis and simulation
- Dynamic analysis
- Stress and strain analysis of pipes



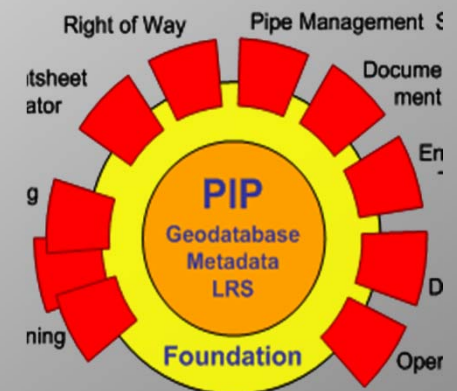
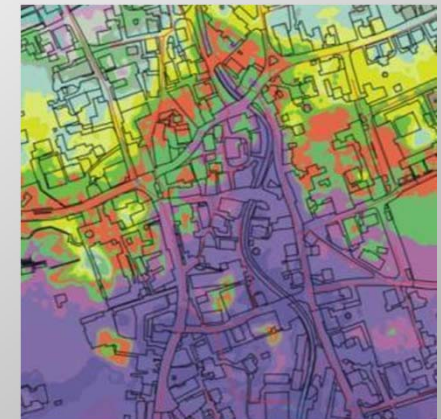
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General Presentation



■ Information management and GIS

- Services and software development in conjunction with GIS/CAD/DB/IT projects and systems
- Design and conception of company-wide GIS/CAD/DB/IT systems
- Development/implementation, testing, documentation, start-up/rollout, training and maintenance of company-wide GIS/CAD/DB/IT systems
- System integration of GIS/CAD/DB/IT solutions with existing IT landscapes (process control systems / management information systems (MIS), models and simulation applications)
- Pipeline Information Platform (PIP) incl. modules for all phases of pipeline projects



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General Presentation

■ Automation and SCADA

- Management systems (SCADA systems and/or DCS)
- Integrated control and safety systems (ICSS)
- Process instrumentation and integration into the plant control (taking account of hazardous zones)
- Operating philosophy and description of plant control
- Process specific special software (e.g. leak detection and locating systems, online and offline simulators, tank farm management systems)

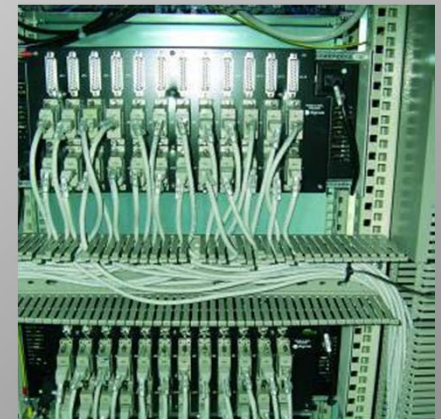


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■ Telecommunications

- Cable networks
- Backbone networks
- Access networks
- Switched networks
- Mobile communications
- Satellite communications
- Local and wide area networks
- Video and voice communication



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■ Safety and risk management

- Qualitative and quantitative risk analysis
- Safety concept
- Evacuation simulation
- Alarm and emergency response plan
- Safety coordination
- Occupational health and safety plan

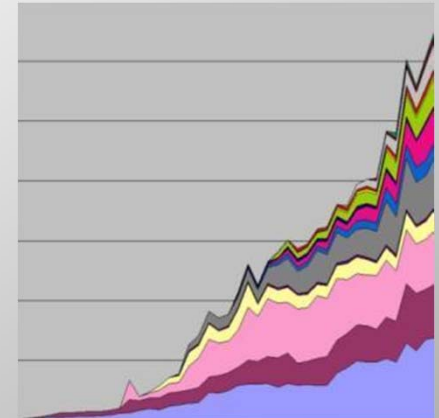


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General Presentation

■ Financial analysis and institutional strengthening

- Investment analyses
- Cost-benefit analyses
- Socio-economic studies
- Financial analyses
- Tariff calculation and modelling
- Cost estimation
- Bankable studies
- Due diligence study
- Financing models
- Institutional strengthening
- Public relations campaigns



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General Presentation

■ Project development

- Project identification
- Master and framework plans
- Implementation concepts
- Preparation of project funding
- Project marketing
- Utilisation concepts

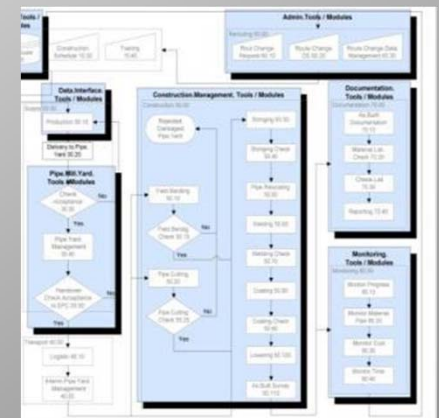


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General Presentation

■ Project management

- Definition of targets
- Project organisation
- Quality management
- Progress control (quantitative and qualitative)
- Project management (deadlines, processes, costs)
- Contract and claim management
- Decision and change management
- Documentation management
- Communication and information management
- Conflict and crisis management
- Health and safety plan



Summary Report for the WKO Conference for Transportation Sector Turkey:

GENERAL CONSIDERATIONS

Evaluation of the attractiveness for railway projects and others in Turkey – General

According to the Ministry of Transportation under the current Government the railway Infrastructure plays a dominant rule in Turkey emphasizing its importance and strategy of traffic planning for individuals as well as freight.

The railway and road infrastructure sectors is under constant development based on huge investments and long term planning until the year 2023 and further on.

The projected investment costs for future project in the infrastructure sector is as below:

- **Railway investments up to 2023 is around 50 billion USD**
- **Road investment up to 2023 is around 51 Billion USD**
- **Metros & tram projects in Istanbul shall be increased from around 70 km in 2011 up to 180 km in the year 2018. Investment costs not announced.**

The investment in this sector is graphically shown on the attached brochure from the MoT concerning railways (normal and high speed as well as rehabilitation) within the period up to 2023 published officially in the relevant magazines.

ILF Group: Policy of Honorar Fees at the Turkish Engineering Market

ILF Activities / Fields

To be competitive on the transportation sector in Turkey focus shall be given not only to the railway sector. The overall development in Turkey is enlarged to diversified infrastructure developments such as:

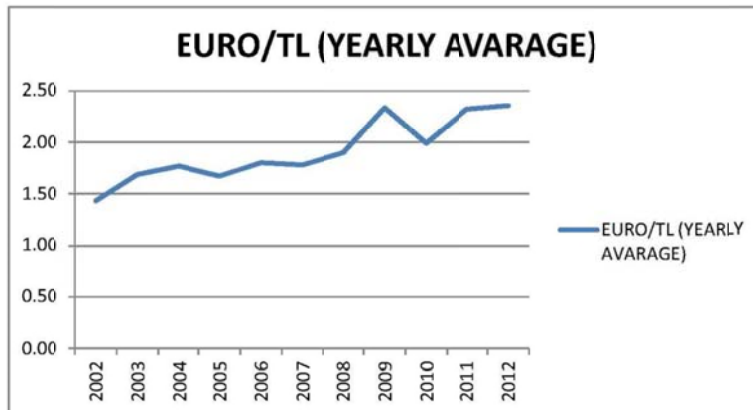
- Railways
- Metros
- Light Railways
- Roads / Highways
- Airports
- Tunnels
- Water and Waste Water
- Environmental issues

Market Situation in Turkey in the Engineering & Design Fields:

The Engineering market has developed rapidly within the last 15 years in the respect of:

- Numbers of engineering companies
- Local Engineering Human Resources
- Technical know How
- Education level
- Public and private Investments (BOT and PPP)

Due to the increasing Economy level within the last 10 years (Economical growth in 2011: 2. Place within the world market) Turkey became an interesting country for foreign and local investment in all sectors also in the construction fields increasing the need of Engineering services, although the exchange rate of the TL and € indicates a certain devaluation as shown in figure below.



In order to be successful in the Turkish Engineering Market following parameters have to be taken into account:

- Strong network to public and private entities
- Focusing on Investment Projects (BOT & PPP)
- Available Know How in special engineering fields where foreign assistance might be needed.
 - o Privat Investment Consultancy
 - o Tunnelling and in specific know how in TMB Projects
 - o Metro Projects
 - o Adverse geological conditions
 - o Underwater Construction
 - o Railway in all fields and in specific fields such as signalling, telecommunication and electrification for
 - Feasability Studies
 - Highspeed Railway

- Railway Rehabilitation Projects
 - Value engineering of complicated structures or Projects
 - Traffic Studies
 - Feasability studies
 - Etc.

Consultancy perspectives in the Turkish Engineering Market:

General Views

Not considering the Oil and Gas sector where the engineering fees are not comparable with the other fields such as infrastructure, the competition between local and foreign companies became substantial tougher in the last years.

Currently the competitions within the Engineering Companies is steadily increasing also due to the fact of the economical crisis within some European Countries such as:

- Greece (plays a minor or nearly no role in the Engineering Market)
- Italy (plays a strong role in the Engineering and construction market)
- Spain (plays a strong role in the Engineering and construction market)
- France (plays currently a minor role due to political discrepancies)
- Germany / Austria (playing a strong technical role, but having the difficulty to compete against low cost european and local entities.

Construction Sector - Perspectives

In order to be successful on the market following parameters should be taken into account:

- Acting as a Turkish Entity with strong Head Offices abroad
- Minimum foreign staff
- Educated and experienced local engineering staff
- Well structured and organized
- Well known in the Turkish Engineering Market

Such perspectives are to be planned on a longterm basis. It requires also a close cooperation and relation to all the entities official as well as private to maintain a strong position in Turkey.

Difficulties :

1. Evaluation of the attractiveness of railway project in general and in Turkey.

In general the attractiveness of railway project are to be divided into 2 groups

- Public Tenders either foreign financed or mixed financed. Makes sense to participate in case the tender conditions require substantial references in amount and / or experience not available at Turkish Engineering Companies
- Public Tenders financed by CFCU-IPA, EIB or other Foreign Sources: In principle and in general always of interest to bid.
- In general the Turkish Railway Market is one of the most attractive market currently worldwide.

2. Achievment of profit.

In order to maintain a longterm policy on the Turkish Infrastructure Market and in order to achieve adequate fees following to be taken into account:

- Keeping the costs of foreign involvement at a reasonable degree.
- Arrangement or JV with local companies is recommendable.
- Adapt the philosophy of the project to the needs and to safeguard safety and environmental issues.

3. Difficulties in Tender.

To be focused as indicated below:

- For public Tenders criteria to be considered as:
 - Magnitude of the Project
 - References required
 - Economical conditions of financing (foreign or local currency)
 - Risk and liability
 - Possible Competitors
 - Profit margins
 - Etc.

Thank you for your attention. We will see us again in this challenging environment.