


**The text of speech that Ersin Arioğlu gave
during the 6th Transport Design Forum in Genoa, on 22nd April 2002**

**Mr. Chairman;
Distinguished Guests,
Eminent Colleagues,**

It is my great pleasure to be here today in the historic city of Genoa, to address and to share some of my thoughts with you on mobility, design and creativity as the Chairman of Yapı Merkezi, which is an international design & build Contractor Company from Turkey. First, I should present my warm thanks to the Forum Chairman Mr. Laconte, and the Forum Organizer Mr. Dinarich, for giving me this valuable opportunity. I also would like to extend my personal appreciation to the administrators of the Host City institutions and of all the eminent professionals, who made this Forum worthwhile happen with your kind attendance.

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*Integration of Design & Implementation
Towards Innovative and Sustainable Public Transport Solutions*



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“GOOD MORNING”

“BUILDING UP
an INTERNATIONAL LEADERSHIP
in TURN-KEY DESIGN and CONSTRUCTION of
RAIL TRANSIT SYSTEMS”

Dr. Ersin ARIOĞLU
April 2002

E.Arioğlu

Dear Colleagues,

We are living at the beginning of an era where the rate of accumulation of **knowledge** increases continuously and this is shaping and reshaping everything we know. In fact, human kind is creating an entirely new civilization. Rapid developments in computer and communication technologies, especially together with developments in all kinds of **transportation technologies**, not only create an increase in the world wealth and trade volume but also they make markets more interdependent to each others. By the end of the last century, annual world trade volume reached 14 trillion US dollars, which was less than one trillion in 1950's. Also daily monetary transactions exceed 3 trillion US dollars to finance government treasuries, goods, debts, projects, company shares, salaries, fees and at the same time smuggling of arms, drug flow and terrorist actions. This reality shows us two deadly contradictory faces of the world civilization. To solve the conflict in this contradiction is the main duty of the mankind. That is the most complicated question and biggest challenge for the new born civilization.



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Artist: Gungör Taner (1997)

New Civilization

Dear Colleagues,

The increase in mobility of people and goods, with the help of new technologies, not only improved human life quality, but also made money and information completely transnational. It is certain that new technologies create economic wealth in the long run. On the other hand, some researchers show that wealth generation based on new technologies, is more prone to short-term market crises. A research of USA - origin, shows that, annual average prices for US stocks increased 7,500 times in the last 200 years. The same research points out movements of boom and bust during the years where growth was due to development of new technologies, especially during the railway era.

Market peaks that coincided with technology breakthroughs. Annual average prices for U.S. stocks, 1785-2002



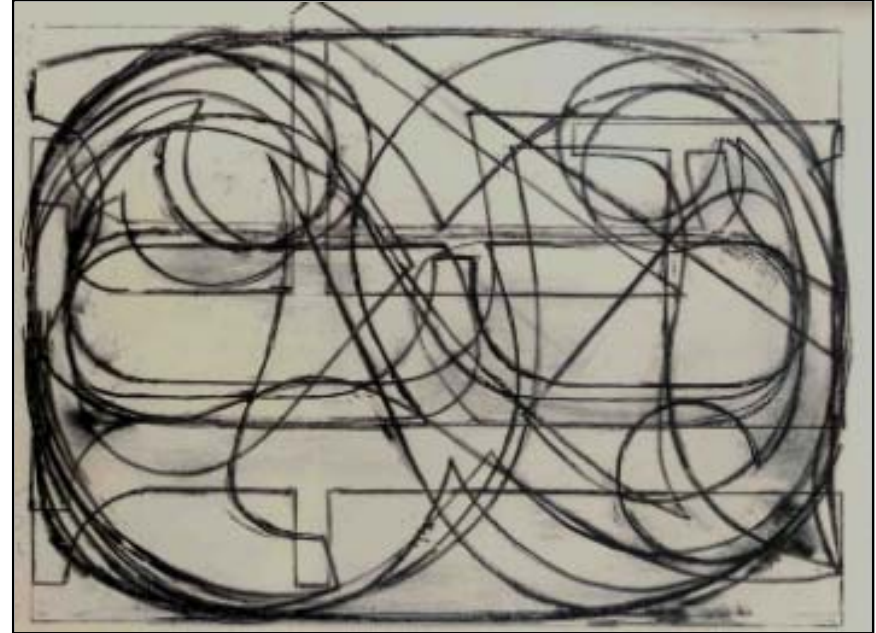
Arrows mark the heights of technology-fed bubble markets

Sources: Elliott Wave International; "Triumph of the Optimists: 101 Years of Global Investments Returns"

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Distinguished Guests,

As a result of all these, the essence of trade is changing. The era of traditional business based on direct buying and selling is already over. In parallel with that, international competition has become not only a lot more fierce and intense but also it has evolved in nature. Competition is no longer based on quality and price of products. Today, competition between products has become competition between systems. In this context, the word **system** contains not only all the processes from research, design of a product to its delivery to the market, but also the social and political systems that are involved in producing, promoting and operating the goods and related services. For this reason, in today's world, trade between markets has turned into very **sophisticated** econopolitical operations.

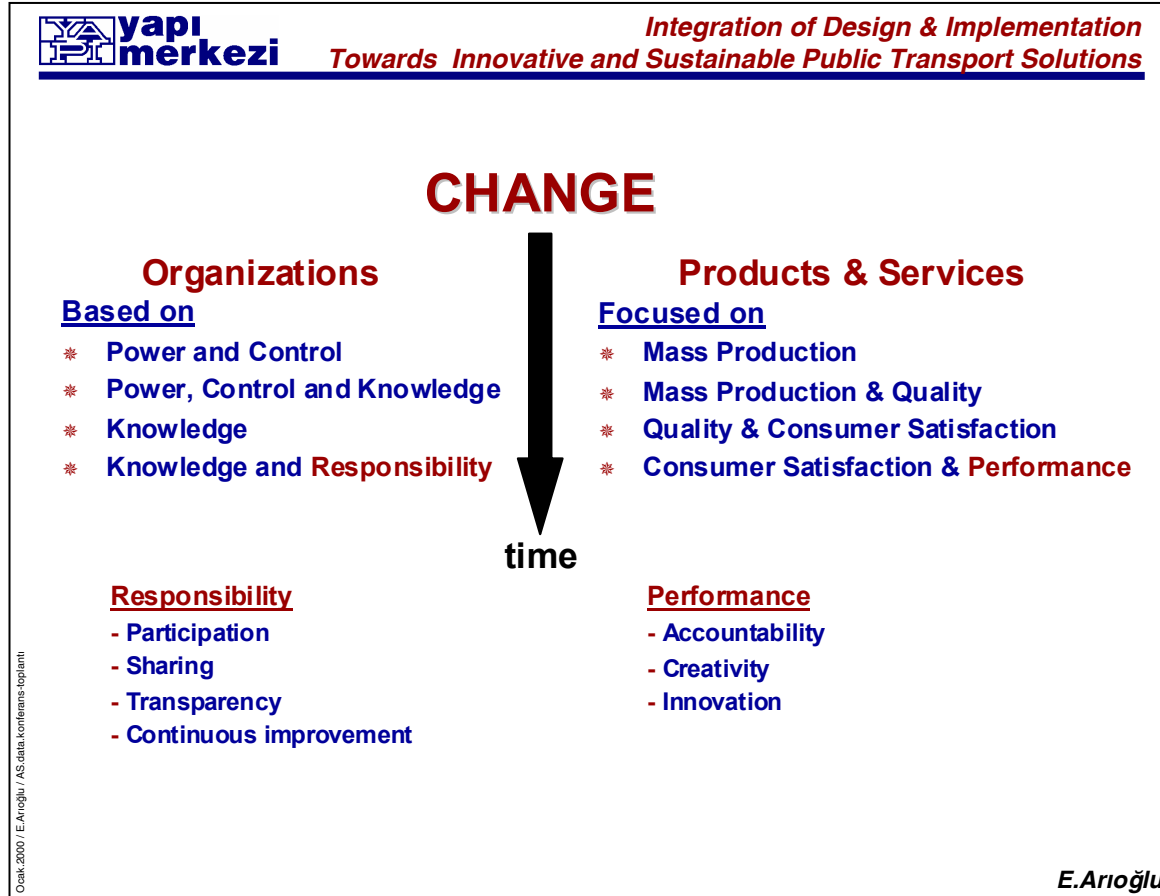


Artist: Jasper Johns (Lithograph 1960)

Sophisticated

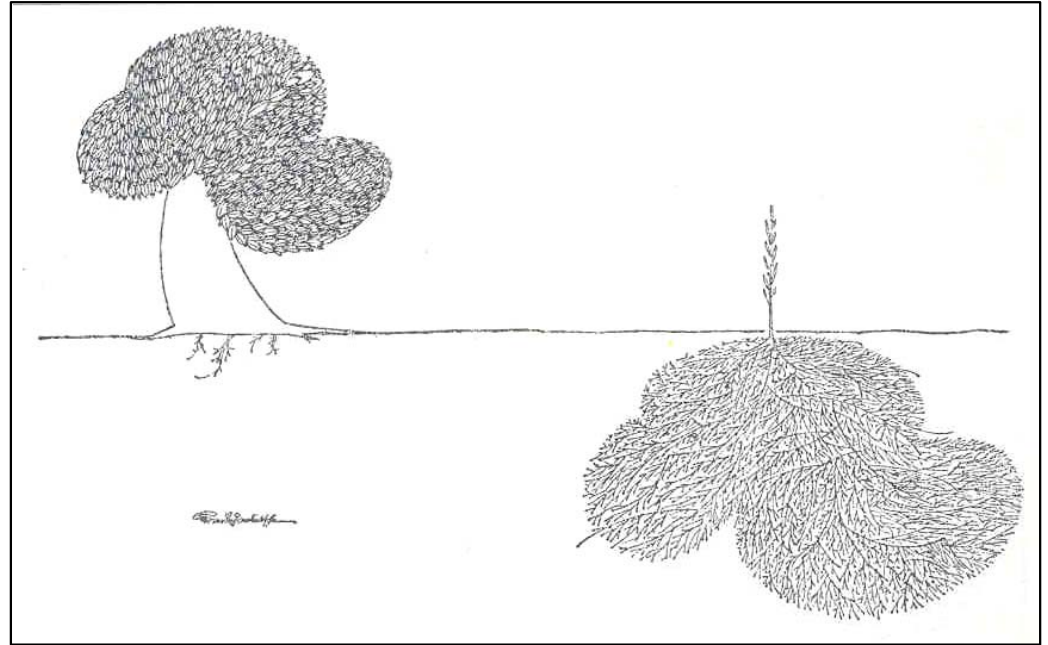
Dear Colleagues,

These developments in the global markets are weakening all power-based organizations such as nation-states and control-based corporations; while increasing the importance of knowledge-based organizations. Even today, many organizations are transforming themselves to **knowledge and responsibility based** corporations for successful performance. Today, it is clear that strategies and policies of a global corporation are as important as national and international policies of government. But all of these should be complementary to each other. For global leadership; a corporation must be sensitive to all changes that take place in the markets. Only this kind of corporation can foresee changing patterns in demand and can **balance** profit margins with all social responsibilities. This kind of organization therefore requires that all members of the organization take responsibility for performance, objectives, contributions and indeed, behaviors as well. It implies in the management that there are no **subordinates**, there are only **associates**. In this respect, the job of management of the organization is not to make everybody a boss; the task is to make **contributor** instead of **worker**.



Dear Colleagues,

Our knowledge of the universe where we live is incomplete, and it is even defective. In fact, it can never be perfect. Based on such imperfection, it is therefore impossible to create any man-made work, organization or decision free from defects. We can however aim for the realization of the second best choice: To create a system totally open to continuous development. We have to be satisfied with this, because there is no higher choice. Only in such a system, we can examine theories, politics, decisions, designs, all works of man-kind and therefore achieve progress and well being for all. Theories, decisions, solutions and similar works of man-kind can be accepted as proper or right solutions during a certain period of the process or service time. These are **profitable defectives** which deliver benefits to the system at the beginning. To extend the profit period is dependent on finding out the defects and incomplete knowledge in the system and it is very closely linked to the enhancing time. However no man made work can live forever. After some time, even enhanced works will surely be useless or unacceptable.



Artist: Semih Balcıoğlu

Distinguished guests,

All the members of a knowledge-based organization such as executives, engineers, accountants etc., should be named as **knowledge-workers**. Today managers or knowledge-workers make decisions, in other words they produce **values** in the organizations. They put together several sources and low-leveled components following a complex collection of rules and transform them into a more valuable and more beneficial element. Their aim is to create new value in order to meet some human requirements. New element can be an idea, a design, a solution, a good or a system, there is no difference for process. Are those new values born from every single component or from the interaction of components, or from the creativity of knowledge-worker? These are the exciting philosophic questions not yet answered.



Artist: Andy Goldsworth

Distinguished guests,

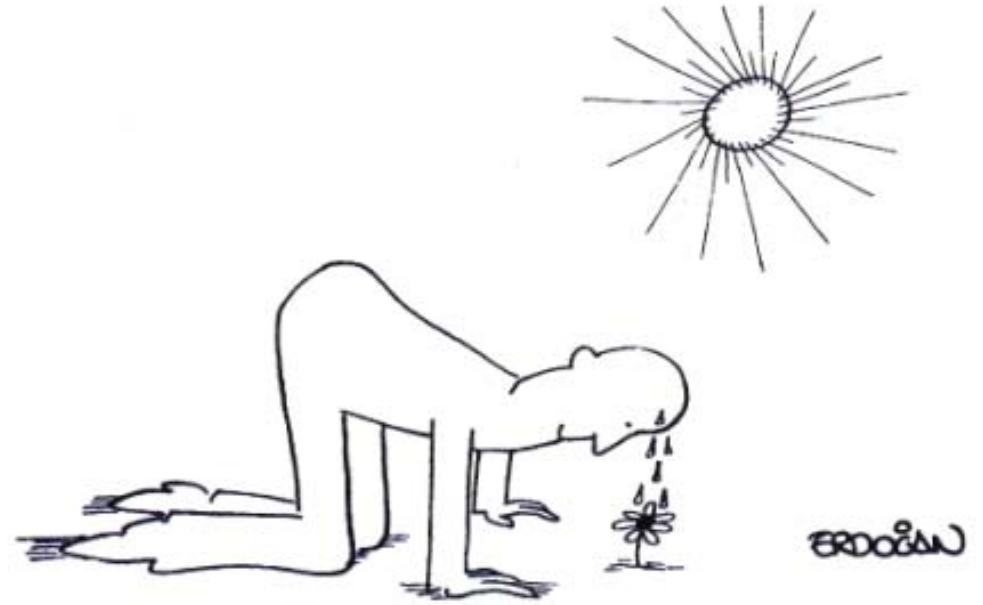
Today, it is wrong to try to summarize the functions of **management** in a knowledge and responsibility based organization by targeting, planning, coordinating, leadership and controlling. We cannot limit its objectives only by making profit or deciding and reporting according to the bottom line of accounting. It will be unfair to management, if we use those limited definitions. Today, management is exactly like an art of **building and shaping**, an art of **existing through doing**. That is the reason why, like in any other form of art, there are creative ideas, extraordinary integrations and original solutions in management to make a **difference**. In other words, management means an opening to newer horizons. It is to succeed in **doing extraordinary works with ordinary people**. It is an art of **forming the society**.



Artist: Andy Goldsworth

Dear Colleagues,

A product, a construction work or a system passes through a **design process** before it is produced. This process includes idea reporting, data collecting, determination of needs, research on economic and technical feasibility, concept design, implementation design, detailing, workshop plans and as-built plans. We call **design** the total of that decision chain. **Design** contains mostly technical decisions and solutions. However, the majority of these decisions or their total have socio-economical consequences. Especially in transport designs, this matter is relatively more important. In addition to that, transport projects definitely produce national or international political impacts. That is why a transportation investment, implemented wherever in the world, will have a global importance.



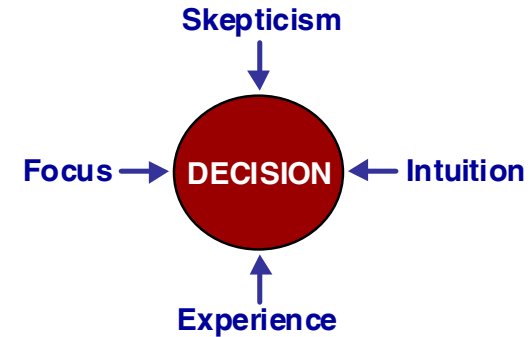
Artist: Erdoğan Başol

It is impossible to avoid all defects in the man-made work like design or implementation. Therefore, the knowledge-based organizations have to be always **skeptical** about their decisions. That is why, they develop special methods that solve problems and continuously improve their decisions. The essence of these methods is to consciously keep **skepticism** on processes, to reach **experiences**, to get benefit from **intuition** and to **focus** on the subject. At this point, I would like to quote a motto that we use frequently in Yapı Merkezi: **implementation can be only as good as its design - work.** Similarly: **any action can be only as good as its action - plan.**

TRANSPORT ORGANIZATIONS

* Should be Based on Knowledge & Responsibility

- * Expert in the process of Knowledge Production
- * Transparency in Behaviors
- * Accountability and Creativity in **Decisions**
- * Quality in Results
- * Focus on Customer Satisfaction
- * Concern about planet resources and environmental impact



Ladies and Gentlemen,

Today, in our planet, 6 billion people from 6000 different cultures live under approximately 250 different flags. The most deprived segment of the world population of more than 1 billion people can benefit from only 2% of the global wealth. Those people travel on foot and their living conditions are extremely insufficient. The next segment of 3 billion people can travel only by bicycle and bus. They can more or less find water, milk, and education possibility. The remaining 1.5 billion have access to everything available on earth. They have 80% of the global wealth. To deal with all the problems caused by this gap, we need to increase our knowledge and technologies on mobility. Drug flow and illegal trade will be under control with the **transparency in mobility**. Also the negative environmental impact can be minimized with railway systems.



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* **World Demographics 2025**

- * **40 % growth**

* **World Transportation 2025**

- * **Highway vehicles will increase 36 % and will reach to 1 Million**
- * **Marine trade will more than twice**
- * **Airline passengers will triple and air carrier operations will double**
- * **Long-distance railway passengers will increase 150 %**

* **World Rail Systems in Cities**

- * **1998 --> 500 systems with 75 Billion passengers**
- * **2025 --> 1,400 systems with 225 Billion passengers**

* **We need for Future Transportation Systems**

- * **more national and international integration between systems**
- * **more options for passengers and easier access between modes**
- * **more research for innovation, security, environmental impact, durability, esthetics**
- * **more intelligent services for operation and maintenance**
- * **more dialogues between end-users.**

Mr. Chairman,

Rail systems are relatively difficult and risky investments. They are expensive and difficult to finance. In the rail system investments, the coordination, integration and control of more than 60 scientific disciplines; thousands of technologies; and hundreds of decisions are required. Also deep research and feasibility process is necessary for the success. It needs political determination and support. Public acceptance and approval are also essential. For success, **creative** and **synergic** contribution from all the actors is highly needed. On the other hand, rail systems are relatively more rational and beneficial compared to other modes especially when environmental impact, land use, energy consumption, value to global economy and accident risk issues are considered. When a rail system begins to operate, it becomes an inseparable partner of the urban culture and it **creates** great **synergy** for the city's economy.

MASS TRANSIT RAIL SYSTEMS



PARTNERSHIP SYNERGY

Partnership is essence between...

- * **Owner, politicians** (*before design stage*)
- * **Owner, expert researchers** (*concept, feasibility stage*)
- * **Designers, builders, manufacturers, operators** (*design stage*)
- * **Operators, passengers, media, NGOs** (*operation stage*)

Improvement is necessary

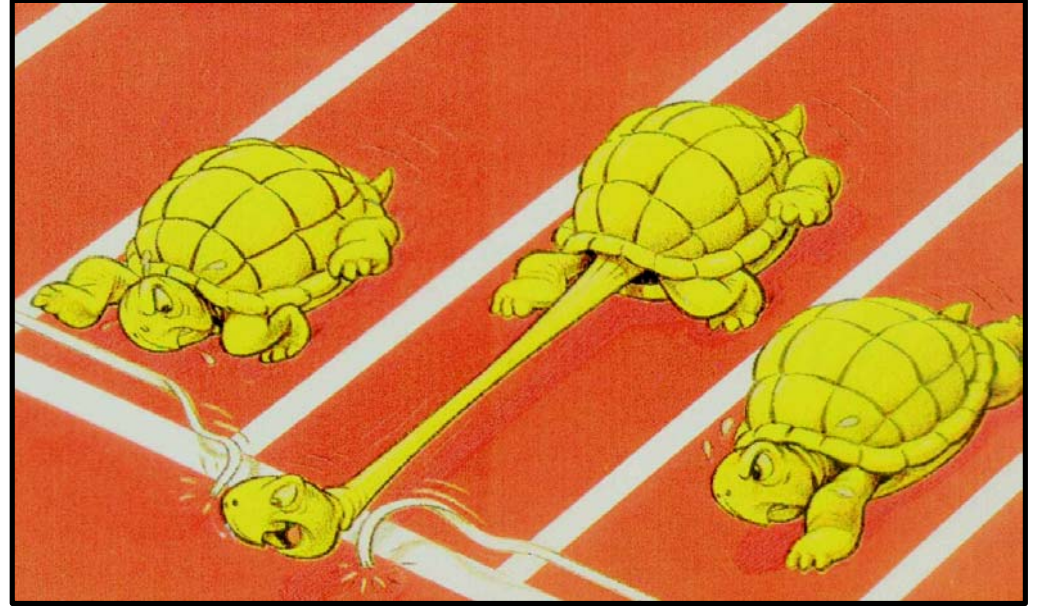
- * **Sustainable and secure systems with harmonization**
- * **New rules in planning - investing - financing**
- * **Holistic solutions in design, implementation, operation**

Innovation is needed

- * **Energy management, non-conventional energies** (*hydrogen*)
- * **Security systems and New materials**

Distinguished guests,

For the success of rail systems, **creative solutions** are required. **Kant** defines **creativity** as solving difficult problems. **Bruner** describes creative thinking as thoughts which create an effective surprise and pleasant feelings for the observer. In other words, **creativity** is an innovation, a positive move; it is goodness and satisfaction. It is shortly a solution which makes one say "yes, that's it". These definitions are neither objective nor sufficient. Our definition in Yapı Merkezi is: Creativity is creating a new bit of knowledge that delivers maximum efficiency with minimum resources.



CREATIVITY is a MATTER of INTELLIGENCE

Distinguished guests,

One of the best examples in the implementation of these thoughts in Turkey is Yapı Merkezi. Established as a very modest local engineering company, we became today a global player with a paid-in capital of 70 Million dollars, rising on solid foundations and accomplishing global works.

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**OUR TRACK
IS ALSO
DIFFERENT...**

1965... ...2002

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E. Arioğlu

Distinguished guests,

Yapı Merkezi was established in 1965 as a research and design company with the aim of applying science and advanced technology to the construction sector. **Yapı Merkezi** moved in to general contracting in 1969. Having executed many prestigious projects both in Turkey and abroad, **Yapı Merkezi** ranked 111th among international contractors and 3rd in mass rail systems by **Engineer News Record** in 1999. Since the 1980's **Yapı Merkezi** is expanding and diversifying its activities. Today with more than ten companies active in Heavy Construction, Transportation Prefabrication, Land Development, Tourism, Education, and GRP Pipe Production sectors. **Yapı Merkezi** has between 1500 ~ 2000 family member and annual turnover between 100 and 250 million US dollars in last three years. **Yapı Merkezi** has also very strong design team in house, experienced in structural engineering and architecture. **Yapı Merkezi** is a world leader in **Light Rail Transit Systems** and national leader in Post-tension, Prefabrication and GRP Pipe Production. The market share of **Yapı Merkezi** in domestic Mass Transit segment is 65%.

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HEAVY CONSTRUCTION



Industrial Estates, Factories, Workshop Facilities, Public Service Buildings

TRANSPORTATION



Metros, Light Rapid Transit Systems, Railways Installations, Highways, Car parks

PREFABRICATION



All types of buildings with Prefabricated Concrete Structures.

POST-TENSIONING



Long-span bridges, Viaducts, Silos, Post-tension Floors, Car-parking Structures.

INDUSTRY



GRP Pipe Industry, Mining Industry.

SERVICES



Education, Tourism, Broadcasting

E.Arioğlu

Mr. Chairman, Eminent Colleagues,

I would like to invite all of you to the presentation to take place tomorrow morning which will be performed by Mr. Emre Aykar. This presentation will be a complementary case study to my presentation.

Please allow me to conclude my words with an anecdote: One reporter asks to a very famous engineer: «**How did you succeed?**» The answer is very sharp: «**Three words: With creative decisions**». The answer of the engineer was not satisfactory for the reporter. Reporter asks again: «**How did you earn these talents?**» engineer answers with one word: «**Experience**». Reporter is still not happy: «**How did you gain experience?**» engineer is very sharp again: «**with defective decisions**».

With these thoughts and feelings, I would like to express my thanks for your kind attention.

Thank you.

Ersin Arioğlu

22 April 2002 Genoa/Italy

***“The success level of a company
is determined by the courage
in selecting its objectives and
by the quality of its methods
in achieving them.”***

E.Arioğlu

