

IWTC 97

SECOND INTERNATIONAL WATER TECHNOLOGY CONFERENCE

المؤتمر الدولي الثاني

لتقنية المياه

٢٨-٣١ مارس ١٩٩٧

ALEXANDRIA, EGYPT

28-31 MARCH 1997

Final Program

(IWTC 97)



Alexandria - March 28-31, 1997

Under the Auspices of H. E.

Prof. Dr. Hussein Kamel Bahaa Eldin
Minister of Education

Prof. Dr. Mohammed Ibrahim Soliman
Minster of New Communities

Prof. Dr. Venice Kamel Gouda
Minister of State for Scientific Research

Dr. Eng. Mohamed El-Ghamrawy
Minister of State for Military Production

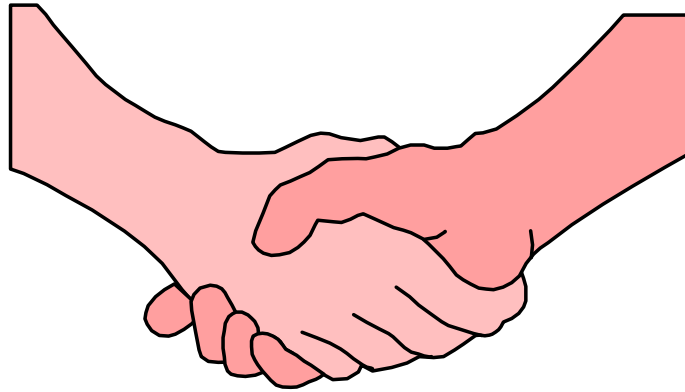
Chancellor El-Said Ismail Elgawsky
Governor of Alexandria

Prof. Dr. Ahmed Amin Hamza
President of Mansoura University

For the memorial of late
Prof. Dr. Abedul Hady Rady
Minister of Irrigation and Public Works
Who has supported the creation of these series
of conferences

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WELCOME

BIENVENUTO

BIENVENUE

WILKOMMEN

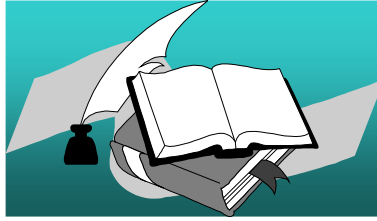
مرحبا

The organizing committees extend to every participant a warm welcome to the Second International Water Technology Conference IWTC97.

Welcome to Alexandria the historical city, that reflects the merging of two ancient civilizations, Egyptian and Greek, to form its particular place in the heart of human civilization. Alexandria is the pearl of the Mediterranean and the second capital of Egypt.

We hope that you will find time to follow researches and savor the ethnic, business, international and cultural aspects of our setting. We will do our best to make your stay in Alexandria very enjoyable.

The Organizing Committees



For all information, contact conference secretary general and executive president of conference organizations committees:

- ***Prof. Magdy Abou Rayan***
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Fax & Tel.: 203 5970641
E-mail: mrayan@eic.mans.eun.eg

For local participants:

- ***Prof. El-Sayed Abdel-Rassoul***
Mansoura University
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For International Participants:

- ***Prof. Jeremy Hall***
Water Research Center, United Kingdom
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E-mail: hall-J.@wrcplc.Co.Uk
- ***Prof. Ralph H. Kummler***
Wayne State University, USA
Fax: 313 577 38 10
E-mail: rkummler@cheml.eng.wayne.edu

CONFERENCE ORGANIZATION

The conference is organized by the following organizations:

- ❖ *Mansoura University (MU).*

In cooperation with:

- ❖ *Alexandria Governorate*
- ❖ *Alexandria Potable Water Authority*
- ❖ *Italian Scientific Cooperation Section Italian Embassy Cairo*
- ❖ *Ghoete Institute and German research Association (Germany)*
- ❖ *El-Tebbin Institute for Metallurgical Studies*
- ❖ *Egyptian Society of Mechanical Engineers*
- ❖ *Water Research Center (Ministry of Irrigation)*
- ❖ *The Arab Company for Engineering Works Cairomatic SAE*
- ❖ *Egyptian Water Technology Association*
- ❖ *International Consultants, Egypt*

ACKNOWLEDGMENT



The Conference Organization Committee acknowledges the support received from the following Organizations:

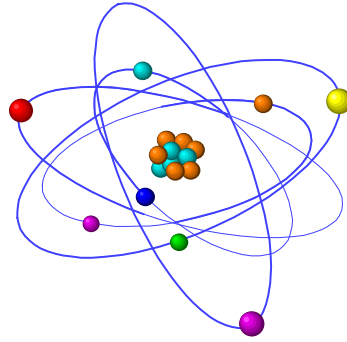
⇒ The Ministry of Tourism ***Egypt***

⇒ The British Council ***United Kingdom***

⇒ The Italian Embassy, Scientific Cooperation Section ***Italy***

⇒ Ghoeth Institute ***Germany***

⇒ The Overseas Development Organization ***United Kingdom***



Exhibitors

- *“Water in Desert” Goethe Institute in cooperation with the German Research Association*
- *Italian Embassy – Scientific Cooperation Sector*
- *Aluminum Chemical Misr (Al-Che.Mi)*
- *The Arab Company for Engineering Works CAIROMATIC SAE*
- *The Arab Organization for Industrialization (A.O.I.) – Engine Factory*
- *Arab Contractors*
- *Seghers Engineering*
- *El-Nasr Casting Co. High Quality Castings Plants*
- *Egyptian Multi Brokers E.M.B.*
- *Quality Standards*

Conference Chairmen

Prof. Amin Mobarak (Honorary)
President of Parliamentary Committee on Energy and Industry

Prof. Aly Maher El-Adel
Vice President of Mansoura University

Conference Co-Chairmen

Prof. Mahmoud Saber Kandil
Dean, Faculty of Engineering, Mansoura University

Prof. Mahmoud Abou Zeid
Ministry of Irrigation and Water Resources

Prof. El-Sayed Abdel-Rassoul
Mansoura University

Prof. Abdul Latif El-Sharkawy
*Secretary General, The Supreme Council for Research Centers
and Institutes*

Conference Secretary General

Prof. Magdy Abou Rayan
Mansoura University

CONFERENCE ORGANIZING COMMITTEE

- **Hassan El-Shafei** (Chairman), Chairman Alexandria Potable Water Authority, Egypt.
- **Mahmoud Salem** Secretary General, Alexandria Governorate, Egypt.
- **Adel El-Towairy** Chairman, Cairo Potable Water Authority, Egypt.
- **Mahmoud Mansour** Chairman, El Beheira Potable Water Company, Egypt.
- **Shawky El-Sabagh** Egyptian Society of Mechanical Engineers
- **Said Ezz El-Din Khalil** Dean, Tabbin Institute for Metallurgical Studies, Egypt.
- **Hany El-Bonn** Suez Canal Authority
- **Abdul-Rahman Abdul-Magid** Ministry of Agriculture, Egypt.
- **El-Sayed Abdel-Rassoul** Mansoura University, Egypt.
- **Magdy Abou Rayan** Mansoura University, Egypt.
- **Mohammed Fayek** Zagazig University, Egypt.
- **I. Gar Al-Alm Rashed** Mansoura University, Egypt.
- **Tharwat Abou-Arab** Cairo University, Egypt.

SCIENTIFIC COMMITTEE

- ◆ ***Mahmoud Abou Zeid*** *Chairman, Ministry of Irrigation, Water Research Centers and Institutes*
- ◆ ***Osman Benchikh*** *UNESCO, Paris, France.*
- ◆ ***Shawky El-Sabbagh*** *Egyptian Society of Mechanical Engineers, Egypt.*
- ◆ ***Said Ezz El-Din*** *Tabbin Institute for Metallurgical Studies, Egypt.*
- ◆ ***Ali El-Nashar*** *Water and Electricity Department, Abu Dhabi UAE.*
- ◆ ***A. El-Sharkawy*** *Ministry of Scientific Research, Egypt.*
- ◆ ***Mohammed Fayek*** *Zagazig University, Egypt.*
- ◆ ***El-Sayed Abdel-Rassoul*** *Mansoura University, Egypt.*
- ◆ ***Magdy Abou Rayan*** *Mansoura University, Egypt.*
- ◆ ***Nageh Gad El-Hak*** *Suez Canal Authority, Egypt.*
- ◆ ***Ahmed Fadel*** *Mansoura University, Egypt.*
- ◆ ***Mona El-Kady*** *Water Research Center*
- ◆ ***Jeremy Hall*** *WRC, UK.*
- ◆ ***M. Lahloh*** *Morocco*
- ◆ ***I. Gar Al-Alm Rashed*** *Mansoura University, Egypt.*
- ◆ ***M. Farid Khalil*** *Alexandria University, Egypt.*
- ◆ ***Fahmy El-Sharkawy*** *Alexandria University, Egypt.*
- ◆ ***Tharwat Abou Arab*** *Cairo University, Egypt.*

Conference Guest of Honor

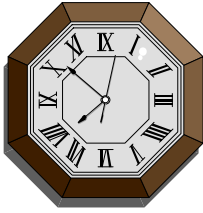
*Eng. Ismail Osman
Chairman of Arab Contractors*

CONFERENCE EXECUTIVE COMMITTEE

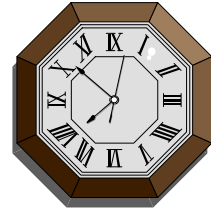
- ◆ ***Magdy Abou Rayan*** *Secretary General*
- ◆ ***Mohammed Fayek*** *Zagazig University*
- ◆ ***Ibrahim Gar Al-Alm Rashed*** *Mansoura University*
- ◆ ***Mohammed Mosaad*** *Mansoura University*
- ◆ ***Nabil Hassan*** *Zagazig University*
- ◆ ***Nadia Abdou*** *Alexandria Potable Water Authority*
- ◆ ***Nariman Soheil*** *Sanitary Sewage Authority*

Conference Administration:

- \$ ***Hassan Abdel Wahab***, *Financial Secretary, Mansoura University*
- 📁 ***Ahmed Helal***, *Administration Affairs, International Consultants (IC)*
- 📁 ***Azza Hamdy M. Fadi***, *Administration Affairs, International Consultants (IC)*



PROGRAM BRIEF



FRIDAY MARCH 28, 1997

<i>Registration at Helnan Palestine Hotel</i>	<i>17:00-21:00</i>
<i>Opening Ceremonies</i>	<i>19:00</i>
<i>Exhibition Opening and Reception in Dahabia Hall</i>	<i>20:00</i>

SATURDAY MARCH 29, 1997

<i>09:00-10:30</i>	<i>Workshop (1)</i>
<i>10:30-11:00</i>	<i>Coffee Break</i>
<i>11:00-12:30</i>	<i>Technical Sessions (1), (2)</i>
<i>12:45-14:15</i>	<i>Technical Sessions (4), (5)</i>
<i>14:15-15:30</i>	<i>Lunch</i>
<i>15:30-17:00</i>	<i>Workshop (2)</i>

SUNDAY MARCH 30, 1997

<i>09:00-10:30</i>	<i>Technical Sessions (3), (6)</i>
<i>10:30-11:00</i>	<i>Coffee Break</i>
<i>11:00-12:30</i>	<i>Technical Sessions (7), (8)</i>
<i>12:45-14:15</i>	<i>Workshop (3)</i>
<i>14:15-15:30</i>	<i>Lunch</i>
<i>15:30-17:00</i>	<i>Workshop (4)</i>

MONDAY MARCH 31, 1997

<i>09:00-10:30</i>	<i>Technical Sessions (9), (10)</i>
<i>10:30-11:00</i>	<i>Coffee Break</i>
<i>11:00-12:00</i>	<i>Closing Ceremonies</i>

FRIDAY MARCH 28, 1997

Time	Room A	Room B
17:00-21:00	Registration at Helnan Palestine Hotel	
19:00-20:00	Opening Ceremonies	
20:00	Reception and Exhibition Opening	

SATURDAY MARCH 29, 1997

Time	Room A	Room B
09:00-10:30	WORKSHOP (1)	
10:30-11:00	Coffee Break	
11:00-12:30	Technical Session (1)	Technical Session (2)
12:45-14:15	Technical Session (4)	Technical Session (5)
14:15-15:30	Lunch	
15:30-17:00	WORKSHOP (2)	

SUNDAY MARCH 30, 1997

Time	Room A	Room B
09:00-10:30	Technical Session (3)	Technical Session (6)
10:30-11:00	Coffee Break	
11:00-12:30	Technical Session (7)	Technical Session (8)
12:45-14:15	WORKSHOP (3)	
14:15-15:30	Lunch	
15:30-17:00	WORKSHOP (4)	

MONDAY MARCH 31, 1997

Time	Room A	Room B
09:00-10:30	Technical Session (9)	Technical Session (10)
10:30-11:00	Coffee Break	
11:00-12:00	Closing Ceremonies	

Technical Sessions

SESSION 1: SEWAGE and WASTE WATER TREATMENT (1)

PLACE: ROOM (A)

Saturday - March 29, 1997

11:00 – 12:30

CHAIRPERSONS:

- * **Jeremy Hall** Water Research Center, UK
- * **Fahmy El-Sharkawy** Alexandria University, Egypt
- * **Nariman Soheil** Alexandria General Organization for Sanitary Drainage, Egypt

- 1- **"The Agricultural Value of Sewage Sludge: Initial Results from the Cairo Sludge Disposal Study"**
Jeremy Hall and Abd El Rasheed Shehata
* WRC Plc, Medmenham UK
** National Research Center Egypt
- 2- **"Sewage Tertiary Treatment Using Floating Media Filters"**
Hisham K. El Etriby* and Myrzakhmetov Menlibai**
* Mansoura University Egypt
** Kazakh State Academy of Architecture and Construction Almaty Kazakhstan
- 3- **"Development of Sewage Drainage"**
H. Seif
Alexandria University, Egypt
- 4- **"Solar-Irradiated Aerogel for Photo-Degradation of Pollutants in an Industrial Waste Stream"**
M. S. Ahmed* and M. H. El-Gohary**
* College of Petroleum and Mining Eng. Suez Egypt
** El-Nasr Co. for Coke and Chemicals, El-Tabbin, Helwan Egypt
- 5- **"Reuse of Wastewater to Irrigate Tree Sheher Belts round of Egyptian Cities"**
Abdel Rahman Abdel Mageed Aly Basher* and Drusilla Rlddell-Blask**
* State Ministry of Agriculture and Land Reclamation Egypt
** Soil Waste & Groundwater Group, Water Research Center (WRC) UK

SESSION 2: DESALINATION (1)

PLACE: ROOM (B)

Saturday - March 29, 1997

11:00 – 12:30

CHAIRPERSONS:

- * **Richard Morris** *R. Morris & Associates, UK*
- * **Mohammed Fayek Abd Rabou** *Zagazig University, Egypt*
- * **Ibrahim Gar El-Alam** *Mansoura University, Egypt*

- 1- **"Solar Desalination Options for Small Communities"**
Richard Morris
R. Morris & Associates, UK

- 2- **"Exergy Losses in a Multiple-Effect Stack Seawater Desalination Plant"**
Ali El-Nashar and Atef Baghdadi
Water and Electricity Department, Abu Dhabi *UAE*

- 3- **"Enhancement of Forced Convection Desalination"**
M. F. Abd-Rabbo, M. M. El-Fawal**, M. Badawy*** and M. Lasheen**
* *Zagazig University* *Egypt*
** *Atomic Energy Authority* *Egypt*
*** *National Research Center* *Egypt*

- 4- **"Water Resources Management in the Gaza Governorates: A Comprehensive Overview"**
Awny Naim
Palestinian Energy and Environment Research Center *Palestine*

- 5- **"Sea Water Desalination by Mechanical Vapor Compression (MVC): A Case Study"**
Helmy Gad and Ibrahim Khaled***
* *Mansoura University* *Egypt*
** *Sinai Development Authority* *Egypt*

SESSION 3: POTABLE WATER TREATMENT

PLACE: ROOM (A)

Sunday - March 30, 1997

09:00 – 10:30

CHAIRPERSONS:

- * **Hassan El-Shafei** Alexandria Potable Water Authority, Egypt
- * **Mahmoud Mansour** El-Beheira Potable Water Company, Egypt
- * **Nageh Gad El-Hak** Suez Canal Authority, Egypt

- 1- **"A New Method for Washing Rapid Sandfilters using Water Jets"**
Lennart Jonsson
University of Lund Sweden
- 2- **"Disinfection Methods for Drinking Water Treatment"**
Bodo Lamberth
ISET Hanau Germany
- 3- **"Utilization of Needle Punched Non Woven Fabrics in Slow Sand Filters"**
Adel El-Hadidy
Mansoura University Egypt
- 4- **"Efficiency of Algae Removal by Slow Sand Filters"**
Fifi M. Abdelrasoul* and A. Fadel**
* Alexandria University Egypt
** Mansoura University Egypt
- 5- **"Recirculation in Tricking Filters"**
Ahmed Fadel and Ragab Barakat
Mansoura University Egypt

SESSION 4: POTABLE WATER NETWORKS

PLACE: ROOM (A)

Saturday - March 29, 1997

12:45 – 14:15

CHAIRPERSONS:

*** Adel El-Towary**

Cairo Potable Water Authority Egypt

*** Bodo Lamberth**

ISET Hanau, Germany

- 1- **"Impact Assessment: of Potable Water Supply on Corrosion Behaviour of Distribution Systems in Dakhlia Governorate"**
Hoda F. El-Gamal
Mansoura University *Egypt*

- 2- **"The Use of Hydraulic Transients for Studying Hydraulic Conditions in Pipelines"**
Lennart Jonsson
University of Lund *Sweden*

- 3- **"Hydraulic Measurements for Potable Water Network"**
Magdy Abou Rayan and Ahmed Helal***
** Mansoura University* *Egypt*
*** International Consultants* *Egypt*

- 4- **"Performance Prediction of Centrifugal Pumps"**
M. G. Khalafallah, M. M. El-Fawal**, M. A. Abolfadl* and H. M. Sadek***
** Cairo University* *Egypt*
*** Atomic Energy Authority* *Egypt*

SESSION 5: WATER MANAGEMENT (I)

PLACE: ROOM (B)

Saturday - March 29, 1997

12:45 – 14:15

CHAIRPERSONS:

- * **Samer Mekhemar** *Egyptian Society of Chemical Engineers, Egypt*
- * **Shawky El-Sabbagh** *Egyptian Society of Mechanical Engineers, Egypt*
- * **Fabio Orecchini** *University of Roma, Italy*

- 1- **"Ecology Measures for Flood Defence"**
Fabio Orecchini and Debora Sabatini
University of Rome *Italy*

- 2- **"Policy Recommendation for Egypt Water Resources Aided by Linked G.I.S.-Water Balance System"**
Ahmed El-Shafie and Assem Abdel-Salam
National Water Research Center *Egypt*

- 3- **"Numerical Simulation of the Solute Transport through Subsurface Flow System"**
Tarek A. Saafan
Mansoura University *Egypt*

- 4- **"Retrofitting the Cathodic Protection System of El-Serw and Hadoos Siphons in Egypt"**
E. H. T. El Shirbeeney and M. Helal
National Water Research Center *Egypt*

SESSION 6: DESALINATION (2)

PLACE: ROOM (B)

Sunday - March 30, 1997

09:00 – 10:30

CHAIRPERSONS:

- * **Aly El-Nashar** *Abu-Dhabi Water and Electricity Department,
Abu Dhabi, UAE*
- ** **El-Sayed Abdel Rassoul** *Mansoura University, Egypt*

- 1- **"Desalination Using Solar Energy"**
Aly El-Nashar
Abu-Dhabi Water and Electricity Department, Abu Dhabi *UAE*
- 2- **"Prospects of Solar Desalination"**
M. Abou Rayan
Mansoura University *Egypt*
- 3- **"Green House Solar Desalination" (Oral Presentation)**
Charly Paton *England*
- 4- **"Sea Water Desalination by Reverse Osmosis (Case Study)"**
M. Abou Rayan and Ibrahim Khaled***
** Mansoura University* *Egypt*
*** Sinai Development Authority* *Egypt*
- 5- **"Dynamic Modeling and Simulation of A Solar Powered Desalination Unit"**
H. Ben Bacha, A. Maalej, M. S. Abid, T Damak and H. Ben-Dhia
Ecole Nationale d'Ingénieurs de Sfax *Tunisia*

**SESSION 7: INDUSTRIAL WASTE WATER TREATMENT,
MANAGEMENT (2)**

PLACE: ROOM (A)

Sunday - March 30, 1997

11:00 – 12:30

CHAIRPERSONS:

* **Tharwat Abou-Arab**

Cairo University Egypt

* **Nadia Abdou**

Alexandria Potable Water Authority, Egypt

- 1- **"Water Saving and Recycling from the Effluents of Plating, Pickling and Printed Circuit Boards"**
F. Frenquellucci
ENEA *Italy*

- 2- **"Biological Treatment of a Hazardous Chemical Industrial Wastewater"**
Ahmed A. Al-Sarwy, Hoda F. El-Gamal and I. Gar Al-alm Rashed
Mansoura University *Egypt*

- 3- **"Treatment of the Waste Water Producing from Small Industries as Candies Industry (Case Study)"**
Nariman Soheil
General Organization for Sanitary Drainage, Alexandria *Egypt*

- 4- **"Titania Thin Film for Photocatalytic Oxidation of Organo-Chlorine Compounds in Aqueous Solution"**
Mohamed Sayed Ahmed
Suez Canal University *Egypt*

- 5- **"Technology for Advanced Water Treatment: Experiences in Egypt"**
Willy Gils, Hany Soroou and Luc Vriens
Seghers Engineering Water *Belgium*

- 6- **"Reuse of Grey Wastewater"**
Fifi Abdelrasoul and Hamdy Seif
Alexandria University *Egypt*

SESSION 8: GROUNDWATER AND WATER PUMPING

PLACE: ROOM (B)

Sunday - March 30, 1997

11:00 – 12:30

CHAIRPERSONS:

- * **H. Ben Bacha** *Ecole Nationale d'Ingénieurs de Sfax, Tunisia*
- * **Nashat Aly** *Assiut University, Egypt*
- * **Fatma Abd El-Rahman** *Water Research Center, Egypt*

- 1- **"Analytic Model for Dispersion of Recharged Waste Waters through Multiple Wells in Porous Media"**
Nashat A. Ali, Mohamed M. M. Rashwan
Assiut University *Egypt*

- 2- **"Accidental Pollution and Ground Water: Characterisation and Numerical Simulation. Case of an Oil Leakage at Sfax City Port (Tunisia)"**
Ben Dhia Hamed and Tagina Samia
Ecole Nationale d'Ingénieurs de Sfax *Tunisia*

- 3- **"Mathematical Modelling Approach for Studying Anthropic Effects on Groundwater in the Oriental Sahel of Tunisia"**
R. Beni-Akhy and H. Ben-Dhia
Ecole Nationale d'Ingénieurs de Sfax *Tunisia*

- 4- **"Experiences and Problems in Research, Development and Demonstration of Wind Pumps in Egypt"**
H. El-Agamawy, M. H. Mahny** and M. Helal****
* *Arab Organization for Industrialization* *Egypt*
** *El-Tabbin Metallurgical Institute* *Egypt*
*** *Mechanical and Electrical Research Institute* *Egypt*

SESSION 9: SEWAGE TREATMENT (2) AND SOCIO-ECONOMIC

PLACE: ROOM (A)

Monday - March 31, 1997

09:00 – 10:30

CHAIRPERSONS:

- | | |
|---------------------------|--|
| <i>*Abdel Hadi Lahlou</i> | <i>Department of Hydraulic Management, Morocco</i> |
| <i>* Shafik Hamam</i> | <i>Sanes Engineering, Egypt</i> |
| <i>* Ahmed Fadel</i> | <i>Mansoura University, Egypt</i> |

- 1- "Environmental and Socio-Economic Impacts of Erosion and Sedimentation in North Africa"***
Abdel Hadi Lahlou
Department of Hydraulic Management *Morocco*
- 2- "Assessing the Social Value of Water in its Use"***
A. Burrill
Institute for Prospective Technological Studies *Spain*
- 3- "Environmental Impact of Wastewater Reuse"***
Fahmy El-Sharkawy
Alexandria University *Egypt*

SESSION 10: WATER MANAGEMENT (2)

PLACE: ROOM (B)

Monday - March 31, 1997

09:00 – 10:30

CHAIRPERSONS:

- * Mona El-Kady* *Water Research Center, Egypt*
- * Anne Burrill* *Institute for Prospective Technological Studies,
Sevilla, Spain*
- * Awny Naim* *Palestinian Energy and Environment Research
Center, Gaza, Palestine*

- 1- "Water Resource Management in the Gaza Governorates. A Comprehensive Overview"**
Awny Naim
Palestinian Energy and Environment Research Center, Gaza *Palestine*
- 2- "Conjunctive Use for Water Conservation in the Beheira Area of Egypt"**
Assem Abdel-Salam, Mona El-Kady and Amr Abdel-Meguid
National Water Research Center *Egypt*
- 3- "Management of Municipal and Industrial Water in Egypt through 2017"**
Nagy G. Yakoub
National Water Research Center *Egypt*
- 4- "Interventions of Water Saving for Egypt's Nile Irrigation System"**
Farida El-Hessy and Mona El-Kady
National Water Research *Egypt*



WORKSHOPS

Workshop (1)

**Operation and Maintenance of Sewage and
Potable Water Equipments**

Alexandria, 21 March 1998

Under the Auspices of H. E.

Prof. Dr. Mohammed Ibrahim Soliman

Minster of New Communities

Place: Room (A)

Duration: 1h 30 min

09:00-10:30

Chairpersons:

Chairman of General Organization for Sanitary Drainage, Egypt

Co-Chairmen:

Michele Nasre

Shesterton, USA

Dr. Hesham Abdul Hamid, Aly Tantay

*Arab Co. for Engineering
Works SAE*

Moderator:

Prof. Tharwat Abou-Arab

Cairo University, Egypt

Objectives:

The necessity of the implementation of reliable maintenance systems in order to secure the continuous and free of trouble operation of water treatment plant is obvious. The objective is to explore the problems facing the application of such systems.

Speakers:

- ***Glyn M. Eastman***, “*Contract Utility Management*”, American Angelian Environment Technologies (USA).
- ***Aly Abdul Latif***, “*Data Acquisition Systems Applications in Monitoring and Preventive Maintenance*”, Cairomatic (Egypt)
- ***Michele Nasr***, “*Maintenance Reliability and Top Management Requirements*”, Shesterton (USA)
- ***Mohamd Abdul Meneem***, “*Arab Contractors Experiences in Operation and Maintenance of Treatment Plants*”, Arab Contractors for Maintenance and Operation (Egypt)
- ***L. Gestin***, “*Operation and Maintenance of Egypt Water Treatment Plants*”, Degremont (France)
- “*Maintenance of Waste Water Treatment Systems*” Seghers Engineering

Workshop (2)

Industrial Waste Water Treatment

Alexandria, 29 March 1997

Under the Auspices of the Arab Organization for
Industrialization

Place: Room (A)

Duration: 1h 30 min

15:30-17:00

Chairpersons:

*Prof. Amin Mobarak, President of the Parliamentary committee on
Industry and Energy, Egypt*

Co-Chairmen:

*Prof. Said Ezz El-Din, Dean, Tabbin Institute for Metallurgical Studies,
Egypt*

*Eng. Ousama El-Ganainy, Chairman, Abou Kir Fertilizer Company,
Egypt*

Moderators:

Dr. Nariman Soheil, Alexandria Sanitary drainage Authority, Egypt

Objectives:

- 1. The problem of industrial waste water.*
- 2. Clean technology to reduce or prevent the pollution in the factory in order to reduce the cost of the final treatment unit.*
- 3. The local industrialization of treatment units.*
- 4. Exploring a rational viable strategy for industrial waste prevention.*

Speakers:

- Dr. M. El-Attar, Arab Organization for Industrialization*
- Dr. Nariman Soheil, Alexandria Sanitary drainage Authority, Egypt*
- Dr. Ahmed El-Nouzahy, Egitalco*
- Dr. Attia Saad El-Deen Attia, Energy Conservation Project*
- Dr. Ibrahim Gar El-Alm, Mansoura University, Egypt*
- Willy Gils, Seghers Engineering*

Workshop (3)

The Local Manufacturing of Equipment

Alexandria, 30 March 1997

Place: Room (A)

Duration: 1h 30 min

12:45-14:15

Chairpersons:

Eng. Mousa Farghaly Hassan, Chairman of the Military Production Organization Tech. Consultant

Prof. Mohmoud Saber Kandil, Dean, Faculty of Engineering, Mansoura University, Egypt

Co-Chairmen:

Eng. Maher Abdel-Gawad, Chairman of Factory No. 10 - Military Production

Dr. Medhat Karawan, Arab Co. for Engineering Works, Cairomatic Egypt

Moderator:

Prof. Hamdy El-Mikatti, Vice Dean, Faculty of Engineering, Mansoura University, Egypt

Objectives:

The objectives of this workshop are:

- *Identify the technological problems which face the local manufacturing of equipment*
- *The identification of application problems*
- *The identification of marketing problems.*

Speakers:

Eng. Saleh Aty Soliman, Organization of Military Production, Factory No. 270

Eng. Mohamed El-Shenawy, The Arab Co. for Engineering Works, Cairomatic

Eng. Nadia Abdou, Alexandria Potable Water Authority

Prof. Mohamed Mokhtar El-Hallowagy, Ministry of Scientific Research

The Workshop will be conducted in Arabic language.

Workshop (4)

**The Importance of Water for the Development
of the New Valley**

Alexandria, 30 March 1998

Place: Room (A)

Duration: 1h 30 min

16:45 - 18:15

Chairman:

Prof. Farouk El-Talawy, Governor of El-Beheira Governorate

Co-Chairman:

Prof. Aly Maher El-Adel, Vice President, Mansoura University, Egypt

Moderators:

Prof. El-Sayed Abdel-Rassoul Mansoura University, Egypt

Prof. Magdy Abou Rayan Mansoura University, Egypt

Objectives:

The achievement of sustainable development of any society including the new valley requires a number of prerequisites, the most important of them is the availability of enough and renewable fresh water resources.

The objective of this workshop is to explore the availability of required water resource and the expected outcome of the development of this area to the national economic and social development.

Speakers:

- * ***Water Research Center:*** *Prof M Abou Zeid, president W.R..C.*
- * ***Water Research Center:*** *Eng. M. EI-Kadi, Expert WRC.*
- * ***New Valley Governorate:*** *Eng. Mahfouze Mouheb*
- * ***Assiut Governorate:*** *Prof. Y. Abdul-Hamid*

- * ***Rigwa Company:*** *Eng. Aly Warwer*
- * ***Expert of Ground Water:*** *Eng. Hassan Edriss*
Eng. Ibrahim Kamel, Water Expert
Dr. Saleh Nour

- * ***Authority for Desert Development***
- * ***Ministry of Scientific Research:***
- * ***Expert Geologist Ground Water*** *Dr. Elbahy Eissawy*
- * ***Expert Abu Tartor Project*** *Eng. Fekry El-Moursy*
- * ***Friends of New Valley Society*** *Artist Heiba Enaite*

This workshop will be conducted in Arabic language.



***CONFERENCE INFORMATION
& VENUE***

Registration, Opening, Ceremonies and Technical Sessions will all be held at:

***HELNAN PALESTINE HOTEL
ALEXANDRIA, THE MONTAZEH ROYAL PALACE***

TEL : (203) 5413500 / 5414033 FAX : (203) 5413318 TELEX 54027

Opening Ceremonies will be held in DAHABIA BALLROOM.
Technical Sessions will be held in DAHABIA BALLROOM, The DOLPHIN, and AL HARAMLEK.

REGISTRATION AT THE CONFERENCE DESK

All participants must register upon their arrival at the registration desk located at hotel Palestine main lobby. The registration desk will be open from Friday 28 at 5 PM until Monday 31 at 10 AM. Every registered participant will receive the necessary documents: name tags and tickets for both meals and banquet.

PRESENTATION, COMMUNICATIONS AND DISCUSSION

There will be two parallel sessions, according to this program. Every session room is equipped with an overhead projector, slide projector and video tape recorder. If you require any specific audio-visual equipment, please contact your session chairman prior to the presentation.

The time allocated for each presentation is 15 minutes. All conducted in English Language.

AUTHOR'S BRIEFING/AUDIO VISUAL PRACTICE

A single orientation meeting will be held in each session meeting room at 8:00 AM on each day for all technical sessions scheduled during the day.

Authors may practice with and review slides and overhead transparencies in their session rooms at anytime the rooms are not in use for sessions or briefings.

MESSAGE CENTER

A bulletin board will be used to post messages received by the conference management staff on behalf of attendees and participants. The bulletin board will be located in the registration area.

Conference Registration Form

Please Check:

	<u>Before January 30</u>	<u>After January 30</u>	
Author and Session Chairman		US \$ 200	US \$ 230
Non-Author		US \$ 200	US \$ 230
<i>Complete Set of Proceedings</i>		<u>Non-Author</u> US \$ 25	<u>Author</u> US \$ 20

Every author will receive one proceeding volume free of charge. The registration covers participation in technical program, a welcome reception on Friday night, lunches, coffee breaks and banquet ticket. Additional banquet tickets may be ordered in advance at the registration desk for US \$ 25. Additional lunch tickets at US \$ 15.

About Alexandria

Alexandria, the largest port in Egypt and one of the major summer resorts on the Mediterranean sea and lies in the North West of the Nile Delta 225 km from Cairo. Two deep-Water Harbors make it one of the most important ports of the Mediterranean and it is the center of the Egyptian fishing and Cotton Industries. It is outstanding location: All Year round mild climate fine sandy beaches stretching over 40 km.

Alexandria was named after Alexander the Great, who ordered the foundation of the city in 332 B.C. on the site of a small village called Rakoda in order to connect Egypt with his fatherland, he charged his architect Democrats with the planning of the new city immortalized his name along history.

After the death of Alexander the Great, his general Ptolemy declared himself King of Egypt and founded the Ptolemaic dynasty which ruled Egypt for three centuries. During this period, Alexandria was the capital of Egypt for nearly a thousand years. Few cities in the world can vie with its glorious past but the majority certainly has more to show. Virtually nothing remains of the marble places and temples for which the city was renowned antiquity. The Hellenic past has been completely submerged and today the city's aspect is entirely modern. The sea front with its railings and open-ended squares is reminiscent, although many of the buildings away from the front retain an Egyptian integrity; it is not coincidental that many of the European communities choose Alexandria for their residences.

Climate

In March, mean temperature has a minimum of 15° C, and a maximum of 25° C. Hotel Palestine has a private beach and water temperature is reasonable for sea bathes. In the area, there is a water sports club, including sailing, launching and diving.

Travel to Egypt

VISA: You will need to contact your nearest Egyptian Consulate to obtain a visa. The letter sent by organizing committee indicating the acceptance of your paper can be used for this purpose.

Most airlines fly to Cairo and some fly directly to Alexandria, such as Lufthansa, and Olympic Airways.

If you need any assistance contact, the IWTC Travel Service (Tel: 202-2728724, Fax: 202-2728725). If you need attendance at the airport, fax the

IWTC Travel Service indicating your flight details. This service is free of charge only for registered participants. When you arrive at the airport, go through the visa officers and through the customs. You can change foreign currency into local currency at the airport. One US dollar is about 3.4 Egyptian pounds. There are no restrictions on exchange of foreign currency in Egypt.

Your Travel to Alexandria

To travel from Cairo airport to your Hotel or Downtown Cairo, you have two options:

The First: Spend the day in Cairo, and traveling next day to Alexandria.

The Second: Traveling directly to Alexandria. Following are the available means of transportation to Alexandria.

You can take a taxi to the railway station and get the train directly to Alexandria at a cost of 10US\$ per person (Time table is indicated)

Buses Time Table (Super Jet and West Delta)

Departure from Cairo Airport is hourly from 5 a.m. to 9 p.m., with one departure 1 a.m. The cost is about US\$ 8.

Trains Time Table

Departures are hourly from 6 am to 10 p.m. and cost about US\$ 8 per person.

Banks and Currency Exchange

Bank opening hours are 08:30 to 13:30, Sunday to Thursday. Most hotels and exchange offices are open for more extended periods.

Credit cards and traveler's cheque

Major credit cards are widely accepted by most hotels, restaurants and shops. Traveler's cheques may be refused in some places and it is best therefore to exchange them at a bank.

Useful Phone Numbers

The international code for Egypt is 20, the code for Alexandria is (0)3, and (0)2 for Cairo.

Ambulance	121,
Police	122.

YOUR STAY IN EGYPT AND ALEXANDRIA

INDIVIDUAL TRIP

ALEXANDRIA AIRPORT

Is deserved by Lufthansa or Olympic and 2 daily domestic flights leaving Cairo Airport at 8 A.M. and 5 P.M. Egypt Air is the official carrier of the conference.

HOTEL RESERVATION

Alexandria: Helnan Palestine Hotel or Mahrosa Hotel
Conference special rates: Single room US\$ 60
Double room US\$ 80

CONFERENCE AND POST CONFERENCE TOURS

There are several programs available for IWTC97 participants and accompanying guests:

For information, please contact the IWTC Travel Service.

One Day Excursions

Tour 1: Cairo

Memphis, Sakkhara, Gizza Pyramids, Sphinx.

Tour 2 : Fayoum

Oasis of Fayoum and Lake Karun.

NEARBY HOTELS

The conference will be held in the Hotel Helnan Palestine, Montazah, and special conference rates are available for this hotel and the nearby Hotel Mahrosa. There are a wide range of hotels available in Alexandria and some of the ones nearest to the Hotel Palestine are listed below.

Stars	Hotels	Address	☎	Fax	Prices in US\$	
					<u>Single</u>	<u>Double</u>
*****	• Helnan Palestine	Montazah	5413500 5414033	5413318	70 US\$	90 US\$
*****	• Montazah Sheraton	Corniche Road, Montazah	5481220 5480550	5401331	NA	NA
*****	• Ramada	544, El-Geish Road, Sidi Bishr	866111 868188		38 US\$	45 US\$
****	• PLAZA	El-Geish St., Zizinia	5878714	5875399	33 US\$ (for Egyptians) 59 US\$ (for the others)	23 US\$ (for Egyptians) 39 US\$ (for the others)
**	• CORAIL	802, Geish Road, Mandara	5480996	5407746	11 US\$	15 US\$

Nearby Restaurants

Restaurant	Address	☎
<i>• Taverna Beach</i>	<i>Montazah</i>	<i>860056</i>
<i>• Lord's Inn</i>	<i>12, Mohamed Ahmed, San Stefano</i>	<i>5865664</i>
<i>• Zephyrion</i>	<i>Abou Kir</i>	<i>5601319</i>
<i>• Chinese Restaurant</i>	<i>802, El Guish Avenue, Montazah</i>	<i>5480996</i>
<i>• International Sea Food</i>	<i>808, El Guish Avenue, Montazah</i>	<i>873154</i>
		<i>Fax 873940</i>

GENERAL INFORMATION

<i>The average temperature in Alexandria is</i>	<i>15° C</i>
<i>Ministry of Tourism</i>	<i>807611</i>
<i>Tourist Police</i>	<i>803929</i>
<i>Ambulance</i>	<i>807611</i>
	<i>123-4201373</i>

CONSULATE	ADDRESS	TEL.
AUSTRIA	8, Deppana St.	808888
BELGIUM	15, Saad Zaghloul Sq.	4839333
BULGARIA	2, Salah Mostafa St.	4810240
CHILI	32, Saad Zaghloul St.	808528
CHINA	6, Badawi St. (El Rassafa)	4916953
CYPRUS	296, Suez Canal St.	4825898
CZECHOSLOVAKIA	26, Dr. Morisson St. (Roushdy)	5420582
DENMARK	Loumomba St.	4221844
FINLAND	2, Gamal Abdel Naser Road	4824482
FRANCE	2, Orabi Sq.	4835613
GERMANY (FRG)	5, Mena St. (Roushdy)	5425475
GREAT BRITAIN	3, Mena St. (Roushdy)	487166
GREECE	63, Alexander The Great St.	4825896
HOLLAND	18, El Horreya Road	4824557
HUNGARY	2, Stamboul St.	4939693
ISRAEL	207, Abd El Salam Arif St.	5863973
ITALY	25, Saad Zaghloul Sq.	4830095
JAPAN	41, Moustata Abu Heif St.	5871859
LEBANON	64, El Horreya Road	491287
LIBYA	4, Loumomba St.	4940900
NORWAY	20, Loumomba St.	4221844
PANAMA	1, El Falaki St.	4836987
PERU	2, Gamal Abdel Nasser St.	4836187
POLAND	5, El-Pharaana St.	4827654
PORTUGAL	Behind 6 English Church (Stanly)	851156
RUMANIA	81, El Shahid Salah Moustafa	4827670
SPAIN	101, Gamal Abdel Nasser Road	4228364
SUDAN	59, El Horreya Road	4827246
SWEDEN	57, 26 July St.	804202
SWITZERLAND	8, Mokhtar Abdel Hamid St.	5427132
TURKEY	11, Selvago St.	4226879
U.S.A.	110, El Horreya Road	4821911
USSR	20, Kafr Abdo St. (Roushdi)	5428828
YUGOSLAVIA	9, El Pharaana St.	806536

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An Exhibition organized by Goethe Institute and the German Research Association

The Goethe Institute was founded in 1952 in Munich. It is a world wide institution offers a variety of German language courses at all levels through its 18 teaching centers in the Federal Republic. It promotes German language teaching in close cooperation with institutions and individuals in the host countries - organizes cultural programs. Last but no least it runs a network of libraries and multi-media resource centers (comprehensive lending, reference and information services about Germany).

- D.F.G. (German Scientific Research Association)

The D.F.G. is central independent organization for science in Germany. The main task of the D.F.G. is to serve the science at any branch by funding the scientific research.

About the Exhibition:

- The water in desert exhibition exhibits the results of the research in the field of the scientific geological science at the desert and semi desert areas which had been done by scientists at the Technical Berlin University, Free Berlin University, and the Technical Institutes in Berlin for more than 15 years.

The researches focus on:

- The geological structure of the terrestrial crust (example North Africa),
- Application research for existing resources including the ground water reservoirs,
- The presented works shows how though joint cooperation between the African organization the knowledge can be transferred. W can mentioned some participants from Egypt as: The company for Petroleum, The Geological Survey Authority, Geographic Association, and The Monument Authority,
- Through the aforementioned projects by scientist (German and African) has obtained the Ph.D. Degree. 11 have obtained the professorship.



CAIROMATIC

Office Address: 7 Arafat St., Dokki 12311-Giza, Egypt
Plant Address: Badr City, the 4th Industrial Zone
Director: Eng. Aly Tantawy
Telephone: 02- 3352215 - 3352438 – 3609513 - 3482028
Fax: 02- 3601472

ACTIVITY:

The design and manufacture of electromechanical projects and civil works, including: Potable water purification and treatment plants, sewage and industrial waste water treatment plants, cathode protection and corrosion control systems for steel structures, swimming pools, diving pools and water display system, water hammer protection systems, manufacture of low-voltage electric distribution and control switchboards.

The company is leader in the implementation of computer aided systems for preventive maintenance and monitoring. These applications are based on the use of data acquisition systems. This system has been successfully implemented in Assiut Cement Plant.

The company's activities follow the requirements of standards ISO 9001:1994.

The company has realized many water treatment and waste water treatment plants since its creation on 1973.

**ARAB ORGANIZATION FOR
INDUSTRIALIZATION (A.O.I.) –
ENGINE FACTORY**

Office Address: Omar Aben El-Aziz St., Helwan, Cairo, Egypt

Plant Address:

Director: Eng. Y. Ahmed Abou Anmer

Telephone: 02- 5559218 - 871157 - 781088

Fax: 02- 781236 Telex: 20862/23138

Engine Factory of Arab Organization for Industrialization, established at Helwan Cairo, in 1960 with the objective of design, development and production of jet engines for military aircraft.

Principal Activities:

- *Production of Gas turbine components*
- *Assembly, test and overhaul of gas turbine (aero engine and industrial)*
- *Production of automotive spare parts*
- *Production of capital equipment and their spare parts*
- *Mechanical elements manufacture and sheet metal work*
- *Reverse engineering*
- *Waste water treatment units (Biotreat). The operation of these units based on Biological treatment principals. The capacity starting from 80 m³/day to 480 m³/day*
- *Water desalination units based on R.O. Principles. These units have the particularity of low energy consumption less than 8 kW.hour/cubic meter of produced water.*

Previous Experiences:

Some examples of the factory experiences are as following:

- *Water treatment plant of 600 m³/day capacity for El-Alamin Resort.*
- *Water desalination unit of 350 m³/day for Sonesta Hotel, Hurghada.*
- *Two desalination units each of 350 m³/day for ElSamaka Resort, Hurghada.*
- *Waste water treatment units for El-Hawamedia Hospital, Misr Petroleum, Balaem Petroleum, Petrobel and several industrial companies.*

***EGYPTIAN MULTI BROKERS
E.M.B.***

Office Address: *DOBBAT MOSTAFA KAMEL BLDG. 5, APTT. 12,
ALEXANDRIA, EGYPT
28 DR. ANWAR ELMOFTY, APTT. NO. 18, NASR CITY,
CAIRO, EGYPT*

Director: *MR. SAMY FOUAD*

Telephone: *03- 5465051 – 5469767 / 02-4015170 - 4014812*

Fax: *03- 5465051 / 02-4014812*

EGYPTIAN MULTI BROKERS (E. M. B.)

- SHIPPING & FOREIGN TRADE

- MAIN SUPPLIER IN MAINTENANCE FIELD FOR THE MAJORITY OF LARGEST INDUSTRIES ORGANIZATION IN PETROLEUM COMPANIES, POWER STATION, WASTE WATER PROJECTS AND SANITARY SEWAGE AUTHORITY.

AS AGENT FOR:

- ◆ MECHANICAL SEAL
- ◆ SEAL FACE MATERIALS
- ◆ MECHANICAL PACKING & CASKETING
- ◆ HYDRAULIC/PNEUMATIC CYLINDER SEALS
- ◆ PUMP & SEAL LIFE SUPPORT SYSTEMS
- ◆ TECHNICAL PRODUCTS:
(METALWORKING FLUIDS - LUBRICANTS - COATINGS –
CLEANERS - WATER TREATMENT)
- ◆ POLYMER COMPOSITE PRODUCTS (ARC)

QUALITY STANDARDS

Office Address: 19 Amer Street, Doki P.O. Box 337 El-Orman
Telephone: 36048990 - 3612344
Fax: 360 4899

Quality Standards is the exclusive distributor of the Environmental System Research Institute (ESRI) in Egypt. SRI is the world leader in Geographic Information Systems (GIS), which is a computer system capable of holding and using data describing places on the earth's surface.

Our technical staff provides professional GIS service including Application development and Implementation services that range from developing specialized applications, technical support services including installation and maintenance of ARC/INFO software. We also provide GIS Consulting services, in addition to the training courses offered covering all GIS aspects.

Quality Standards supports more than 70 organizations throughout Egypt including military sites such as Military Survey Authority, utilities management organizations such as the Behira Water Co. and Great Cairo Utilities, Data Center, the Egyptian Survey Authority, the Geological Survey Authority, as well as many academic institutions. Quality Standards has also helped in building up the Information and Decision Support Center, Cabinet of Ministers.

One of the successful implementations is the application developed for the Behira Water Company. Quality Standards and Stoner Associates Co., Water and Gas modeling services market leader, offered Behira Water Company GBWMS system; GIS BASED WATER MODELING SYSTEM, which is based on integrating two software in the fields of GIS and Water modeling, ARC/INFO and WS respectively.

GBWMS Functionality is summarized in the following points:

- * Managing the pipe network including automating data entry procedures, pipe data calculations, automating simulating the network effect on network subsets selected for modeling.
- * Building and parcels, representing the consumers. Data entry and classification procedures allow studying the effect of consumption trends.
- * Street data is entered and monitored to track the underground pipes and allow for planning future network extensions.
- * A subsystem for the water plants and wells is available for maintaining the spatial and attribute information. The effect of these water sources is automatically simulates into the network.

**EL-NASR CASTING CO.
HIGH QUALITY CASTINGS PLANTS**

Office Address: *10 Mohamed El-Kamel Street El-Zamalek*
Person in Charge: *Dr. Osman Abdul-Wahab*
Position: *File Manger*
Telephone: *02 3403691-3403682-4306682 03 4306683*
Fax: *02 3418093- 03 4306689*

Activity:

High Quality Casting Plants:

H.Q.C. is one of best-known cast iron producers in Middle East. Our production covers mainly products for potable water pipelines, sewage pipelines, air and vacuum pipelines, irrigation pipelines and fire fighting pipes.

The products are made of grey cast iron / or ductile (nodular) cast iron following in design and material ISO and DIN Standards. In addition, H.Q.C. has a long outstanding in high quality jobbing castings.

SEGHERS

Office Address:

Plant Address:

Director: Mr. Tamer Moner
Telephone: 02- 3474260 - 3468565
Fax: 02- 3036419

ACTIVITY:

Seghers engineering group of companies:

- ◆ Seghers Engineering Water
- ◆ Seghers Engineering Solid + Air
- ◆ Seghers Engineering Dinamec

- Seghers Engineering Water mainly focus on :
Water - Waste Water - Biosolids - Solid & Off-gas treatment
- Our clients can be found world wide and include multinational and local companies as well as governmental bodies.
- Our Strategy : Tailor – Made Solution
1- Study, 2- Engineering, 3- Construction, 4- Operation.
- Seghers Engineering Water applies advanced treatment of industrial and municipal waste waters through knowledge of biological process in the UNITANK system.

*** APPLICATIONS:**

(Agrofood, Biochemical, Chemical, Textile, Paper, Petrochemical-Industry...etc.).

*** UNITANK - Main advantages:**

- Compact & Modular design,
- Advanced Treatment,
- Flexible and Simple operation,
- Zero emission and Unobtrusive,
- Intelligent and adaptive model based process control,
- Cost-effective solution,
- Proven Technology-world wide.

*** Aqualeuven : Environment Technology Center**

Aqualeuven is an officially recognized for environmental technology.

*** World-Wide References :** More than 150 installations all over the world.