

PROFESSIONAL ACTIVITY

Civil Engineer (1983). Born in Zaragoza (Spain), age 50 years, married with 5 children.

A brilliant academic record, culminating in his Engineering studies in Madrid obtaining for which he obtained *Matrícula de Honor* and a special end of studies award.

He is also Licensed in Law and Licensed en Business Management (2010).

Of his 27 years professional experience, 4 have been spent occupying high administrative Posts as (Chairman of the River Ebro Basin Authority), for 1 year was works manager (hydraulics and railways), 4 as company manager and he spent the remaining 18 years basically in the field of engineering, especially in hydraulic affairs, both in the administration (9 years) and in the private sector, as business manager and consultant.

As a Civil Servant for the State, employed as a Civil Engineer, for 9 years he was the Engineer who was responsible for operating 27 dams and associated used with the River Ebro Basin Authority, including two of the major irrigation zones in the basin: Bárdenas (60,000 hectares) and irrigation Zones in Alto Aragón (100,000 hectares). He has also managed numerous projects involving major repairs and improvements to dam safety and security, the rehabilitation and improvement of the irrigation infrastructures (including service channels and roads) and, as a result, he was Manager of the works in question. He was Secretary of the 17 Operating Committees forming part of the River Ebro Basin Authority and the Works Committee of Monegros II. He was coordinator of the Dam Safety and Security programme for the River Ebro Basin Authority.

For 3 years he worked as a consultant in the same activity sector, setting up a company and carrying out numerous studies and projects.

For the next 4 years (1996 to 2000) he was Chairman of the River Ebro Basin Authority, pioneering the modernisation of the Body, improving the way it operated, the water management and its projection in society and on an international level. He was also the Chairman of three other state-owned companies specialising in the construction and operation of hydraulic infrastructures (including the private financing and European funding), playing an active part in their inception and consolidation.

He has spent 7 years (2000-2007) with Eptisa, Servicios de Ingeniería S.A., the main engineering company in Spain, the last four as General Manager of Civil Engineering Design, and as General Manager of "Gestión Integral de Aguas", company of Eptisa group for water technology and treatment plants.

Presently, he is General Manager and partner in SERS Consultores en Ingeniería y Arquitectura S.A.

As an international consultant he worked for the UN-WMO he has been responsible for water management work in Mexico. He has also worked in Ecuador, Republic Dominican, Brazil, Morocco, Ireland and presently he is working for DINEPA in Haïti.

Regarded as an expert in infrastructure financing and management matters, he has an in-depth working knowledge of company and administrative problem, having demonstrated his ability to relate to the different sectors (regional and local government administration, uses, social agents, etc.).

He has worked as a lecturer for the International Masters in Irrigation Engineering (CEDEX – Madrid Polytechnic University). He was a member of the Forum for the World Dam Committee, of the IWRA,

RESUME WCCE PRESIDENT – TOMÁS SANCHO MARCO

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Chairman of the SMAGUA 2000 Organising Committee (International Water and the Environment Exhibition), spokesman for the National Water Advisory Body and its Standing Committee. He is currently a member of the Water and Energy Committee of the College of Civil Engineers and the Civil Committee of Tecniberia / Asince.

He was named "Engineer of the Year" in the year 2001, by the **Aragón regional Chapter of the Spanish Institution of Civil Engineers**.

He is actually Vicepresident of the WCCE (World Council of Civil Engineers) and President of its Standing Committee on Water.

He has taken part in many Conferences and Symposia, both Spanish and international, and has also published numerous books and technical articles.

DETAILED DESCRIPTION

JANUARY 2008 UNTIL THE PRESENT TIME

Post: Partner and General Manager of SERS Consultores en Ingeniería y Arquitectura S.A.

JULY 2004 TO DECEMBER 2007

General Manager at Eptisa, Servicios de Ingeniería, S.A.

Besides, since 2006, General Manager at Gestión Integral de Aguas, S.L. (Company of Eptisa Group for water technology and treatment plants)

SEPTEMBER 2000 TO JULY 2004

Assistant General Manager at Eptisa, Servicios de Ingeniería S.A.

Company Management as Assistant General Manager at Eptisa, Servicios de Ingeniería S.A., the top engineering consultancy in Spain. Member of the Management Committee of the Grupo EP, the holding company for a group of companies head by Eptisa, which is composed of 1,600 professionals and reaches a production of 130 million €. It is linked to the Administration and manages activities not only in Spain but also in many other countries (Brazil, the Dominican Republic Panama, Peru, Colombia and Eastern Europe), depending directly on its personnel on its personnel in the Projects and Consultancy Divisions, including Water and the Environment, as well as Development Management, with an estimated production of 28 million €, and employing 300 professionals.

MAY 2000 TO SEPTEMBER 2000

Service Manager for the State Highway Department in Aragon.

Studying the quality assurance plans and drawing up the instruction for contracting the technical assistance service. Somport to Sagunto Dual Carriageway.

JULY 1996 TO MAY 2000

Chairman of the River Ebro Basin Authority.

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Chairman of the state-owned company "Aguas de la Cuenca del Ebro, S.A." (since December 1997).

Chairman of the state-owned company "Canal de Navarra, S.A. (since January 2000).

Chairman of the state-owned company "Canal Segarra-Garrigues, S.A." (since January 2000).

In his capacity as Chairman of the Basin Authority and the associated State Bodies, he has promoted, managed and played an active part in the River Ebro Basin hydraulics policy, completing the hydrological planning, creating new financing systems for hydraulic works, the Water information Network, the Ebro Environmental Network modernising the Body, improving the management and financing of the Body, and carrying out the most significant outstanding hydraulic infrastructures in the river basin. Its international project has been enhanced (RIOCI, RELOC, IWRA, the WCD Forum). Collaboration agreements have been signed with the hydraulic authorities in Brazil (Paraíba do Sul Basin) and Chile (Ministry of Public Works).

SEPTEMBER 1993 – JULY 1996

Business Manager and independent Engineer Consultant and BS Ingeniería (founded by him together with another partner in 1993).

Structuring the waters of the Jalón and Matarraña River Basins.

Technical assistance for the Project and Works Management of the works involved in pumping the water up from the River Jalón to the La Tranquera Reservoir.

Technical and legal structuring of the River Queiles river developments affected by the Val Dam.

Study of the operation, strategy and guarantee curves for the Zadorra Reservoirs, for the Gran Bilbao Water Board.

Drawing up a variety of optional Projects for the bids of construction companies for Invitations to Tender for Works.

Drawing up the Study for Regulating and Allocating Resources for the Gállego – Cinca Interbasin Transfer System, for the General Irrigation Subscribers in Alto Aragón.

Technical services to support the hydrological planning for the left side of the River Ebro Basin, for the River Ebro Basin Authority.

Studying the technical justification for the heightening of the Yesa Dam.

Expert's report for the High Court in Aragón concerning the state of the Rivers Ésera and Noguera Ribagorzana in July 1994.

Feasibility Study for the Gallipienzo II Power Plant, for an independent businessman.

Legal and technical structuring for the river developments in the Queiles Basin, affected by the Val Dam, for the River Ebro Basin Authority.

Feasibility Study for the small power plants on the Canal de Bárdenas, for the irrigation subscribers along the Canal de las Bárdenas.

Restructuring the Sotonera Power Plant, for the General Irrigation Subscribers in Alto Aragón.

Repairing the Valdespartera Power Plant, for the General Irrigation Subscribers in Alto Aragón.

Project for a drinking water plant and improvement to the water supply for Sádaba, for Sádaba Local Council.

Project to improve the water supply for Alera, for Sádaba Local Council.

1989 TO AUGUST 1993

Chief Engineer for the Management of the Operation Resources of the River Ebro Basin Authority, Engineer responsible for Operating Committee Num. 14 (Gállego and Cinca River basins), where 12 reservoirs are being operated by the River Ebro Basin Authority, the irrigation zone for the irrigation subscribers in Alto Aragón, still under development at that time, which then covered around 95,000 ha. In this zone at that time, the River Basin Authority constructed and operated around 300 Km of main channels, 1,000 Km. of irrigation ditches, 1,000 Km. of drains, collectors and traps and 1,300 Km. of roads.

Secretary of 17 Operating Committees for the River Ebro Basin Authority.

Secretary of the Monegros II Works Committee.

Coordinator of the Dam Safety / Security programme for the River Ebro Basin Authority.

He has been an Engineer involved in work at the following Dams:

DAM	TYPE	HEIGHT (m)	LENGTH OF CREST (M)	VOLUME OF DAM (10 ³ m ³)
LANUZA	VA	79.60	176.33	68.00
BUBAL	PG	90.00	195.00	198.00
ARDISA	PG	34.64	532.90	76.00
SOTONERA	TE	34.00	3,859.00	5,284.00
LAS NAVAS	TE	20.30	305.00	77.00

DAM	TYPE	HEIGHT (m)	LENGTH OF CREST (M)	VOLUME OF DAM (10 ³ m ³)
VALDABRA	TE	20.00	500.00	147.00
TORROLLON	TE	29.20	1,115.00	519.00
STA .Mª BELSUE	PH	52.00	126.61	58.00
CIENFUENS	PG	34.00	106.00	23.00
VADIELLO	PG	75.50	119.00	93.00
MEDIANO	PG	92.00	500.00	436.00
EL GRADO	PG	130.00	959.00	1,030.00

- Management of the drawing up of the XYZT for Ardisa, Mediano and El Grado (1989).
- Manager of the Major Repair Works Project for the Lanuza Dam (270 million pesetas) (1989).
- Management of the repair works done to the Torrollón Dam (350 million pesetas), carried out with a continuous wall made of concrete with bentonite in the foundations.
- Management of the project, auscultation works and the interpretation of the data concerning the Búbal, Ardisa, Torrollón, Mediano and El Grado Dams (105 million pesetas) (1990 to 93).
- Management of the Major Repair Works Project for the Sotenera Dam (1.400 million pesetas) (1991).
- Management of the Major Repair Works Project of the El Grado Dam (1992 to 93).
- Coordinator of the Safety / Security Program for the Dams on the River Ebro Basin Authority, responsible for the inventory and preliminary analysis of the dams in the River Ebro Basin by the State, and identifying and programming the studies and works required to adapt the Dams (1992).
- List of the activities for the Irrigation Modernisation Programme for the Irrigation Zones belonging to the Irrigation Subscribers of Alto Aragón (95,000 ha) and the Bajo Gállego (15,000 ha).
- Manager of the staunching and repair works to the Tardienta Aqueduct in the Canal de Monegros (100 million pesetas) (1991).
- Management of the Major Repair Works to the Canal de Terreu (600 million pesetas), based upon self-supporting pile sections (1991 to 92).
- Manager of the Project for the completion of Sector XIII of the Canal del Cinca (1990) and the works involved (250 million pesetas) (1992 to 93).
- Manager of the Project for the completion of Sectors II and III of the irrigation zone in Section II of the Canal de Monegros (1990) and the works involved (550 million pesetas) (1991 to 93).
- Manager of the Major Repair Works Project for the Canal del Flumen (1500 million pesetas) (1992-93).

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- Manager of rehabilitation and resurfacing works for the service roads for the Canal de Pertusa (280 million pesetas) and for Sections II and III del Canal de Monegros (330 million pesetas) (1992 to 93).
- Assistance and collaboration for the studies in the Hydrological Planning office.
- Member of the team that prepared the hydraulic infrastructure study and allocation of resources for the Gállego, Cinca, Ésera and Noguera - Ribagorzana Rivers (1991).
- As Service Manager he had 1 Civil Engineer, 3 Public Works Technical Engineers and a further 130 employees under his command, and managed operating and conservation budgets amounting to 550 million pesetas. He repaired the required investment projects for replacements in the zone concerned and was in charge of the contracted works, for an average annual amount of 900 million pesetas, charged to the Directorate General of Hydraulic Works Annual Budgets.

1984 – 1989

Chief Engineer of the management Service for Operational Resources in the River Ebro Basin Authority (1987 to 89).

Chief Engineer in Section 2ª of the Operations (1986 to 87).

Civil Engineer for the Dam Safety / Security Programme for the Directorate General of Hydraulic Works. (1984 to 86).

He was successively the Engineer responsible for the following Operating Committees Num. 5, Num. 6, Num. 7, Num. 8, Num. 9 and Num. 10 (basins on the right bank from the River Jalón to the Matarraña), Num. 15 and Num. 16 (Basins from the River Aragón, Irtái and Arga), including the irrigation zone for the River Bardenas (60,000 ha).

Secretary of the Operating Committees for the River Ebro Basin Authority.

Work performed:

He has worked as an Engineer responsible for the following dams:

DAM	TYPE	HEIGHT(M)	LENGTH OF CREST (M)	VOLUME OF DAM (10 ³ M3)
TRANQUERA	PG	80.55	225.21	325.00
MAIDEVERA	ER	53.50	757.10	797.00
MONTEAGUDO	TE	12.00	1,546.14	228.00
LAS TORCAS	PG	37.43	100.50	13.00
MONEVA	PG	45.00	151.80	61.00

DAM	TYPE	HEIGHT(M)	LENGTH OF CREST (M)	VOLUME OF DAM (10 ³ M3)
ALMOCHUEL	TE	10.03	783.11	103.00
CUEVA FORADADA	PG	65.00	112.60	58.00
SANTOLEA	PG	50.50	137.70	105.00
CALANDA	ER	63.50	293.00	1,040.00
LA ESTANDA	TE	14.50	178.30	38.00
GALLIPUEN	PG	36.00	180.00	41.00
PENA	PG	46.50	133.10	42.00
YESA	PG51.30	252.00	62.00	
EUGUI	PG	51.30	252.00	62.00
ALLOZ	VA	66.80	74.40	19.00

He conducted the Study from the perspective of the safety / security of the aforementioned dams.

Manager of the preparation of the XYZ documents for the Cueva Foradada, Gallipuéñ, Santole, La Estanca, Yesa, Eugui and Ayos Dams.

Preparing the Improvement Project for the metallic elements and outflows from the Santolea Reservoir (for which the spillway was completely redesigned) and the Tranquera Reservoir (with the existing concrete).

Manager of the heightening project for the Tranquera Dam.

Controlling the first filling of the Calanda Dam.

Interpretation of the auscultation data for the Maidevera Dam (construction, first filling and first years of operation), and for the Calanda Dam (first filling, first years of operation and first complete emptying).

Grouting and repair work for the outer gallery and core settlement for the Calanda Dam.

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Project and works managements for improving the electrical installations and installing the power generators for the Tranquera, Las Torcas, Cueva Foradada, Santolea, Calanda, Gallipuéñ, Yesa and Aynos Dams.

Works management for lining several irrigation ditches in the Guadalope Basin (Teruel), works amounting to approximately one thousand million pesetas (1985 to 1988).

Drawing up the Operating Standards for the Jalón (1986), Martín (1988) and Aragón - Arga Basins (1989).

As Service or Department Manager he had 1 Civil Engineer, 2 Public Works Technical Engineers and a further 80 employees under his command, and managed operating and conservation budgets amounting to 250 million pesetas. He repaired the required investment projects for replacements in the zone concerned and was in charge of the contracted works.

1984

Technician contracted by INECO.

In charge of the field work undertaken to study the rail traffic and future prospects in the River Ebro Valley.

1984:

Civil Works Engineer at Hispano-Alemana de Constructions, S.A.

Works Manager for "Covering the Ranillas Stream" in the Barranco del Aeropuerto (Seville)", (200 million pesetas. 1984).

Assistant Work Manager for the works performed at the "Rail Freight Station at Santa Justa (Seville)" (600 million pesetas, 1984).

1983

Independent Consultant Engineer.

Report on improving the water supply to the town of Muela (Zaragoza).

Industrial Estate Project for Andorra (Teruel).

Urban Planning Project on the Industrial estate at Fuenfresca (Teruel) for the "San Juan" Housing Cooperative.

SUMMER 1981

Contracted by the U.T.E. (Joint Venture) AUXINI-AGROMAN (AUXIMAN) for the summer at the Salto de Moralets to do practicals as a technical auxiliary engineer, mainly to control the production of aggregates and concrete for the Baserca Dam.

SUMMER 1980

Contracted by E.R.Z. to make improvements to the hydroelectric jump at Carcavilla (Huesca).

COURSES AND CONFERENCES ATTENDED AND PARTICIPATION IN TENDERING

- Latin American Hydraulic Developments Conference (LNEC, Lisbon, June 1986).
- 7th General and Applied Hydrology Conference: Water and Soil Use (Zaragoza, February 1987).
- Workshop on Desertification, Real Academia de las Ciencias Físicas y Naturales. (Madrid, 1987).
- Courses on Earth Dams (CEDEX, Madrid, April 1990).
- River Engineering Course (Civil Engineers College, Madrid, June 1992).
- Seminar on Hydraulic Policy (V.I. Menéndez Pelayo, Santander, September 1992).
- International Symposium on Dams and Floods (ICOLD, Granada, September 1992).
- IV Spanish Workshop on Dams (CNEGP, Murcia, May 1993).
- Workshop on Earth Dam Geotechnics (Zaragoza, 1994).
- Workshop on the SAIH (Zaragoza, 1995).
- V Spanish Workshop on Dams (CNEGP, Valencia, April 1996).
- International Conference on private financing and management of public interest infrastructures (Madrid, November 1996).
- VI Spanish Workshop on Dams (Malaga – June 1999).

COURSES AND LECTURES GIVEN AND PAPERS SUBMITTED

- Repairing Channels with unconventional materials (Paper at the Concrete Hydraulic Works Repairs Workshop, Barcelona, January 1991).
- Water Management in Drought Regimes (4th Paper at the 9th International General and Applied Hydrology Conference, SMAGUA, Zaragoza, February 1991).
- Experience in Canal Repair (Paper at the Channels Workshop, CEDEX - U.P.M., Madrid, June 1991).
- Institutional Aspects, Operating Irrigation Networks, Rehabilitation of Irrigation Systems (Workshop on the Spanish Experience with Operating and Rehabilitating Irrigation Systems, National Water Committee (Mexico) – CEDEX (Spain), Culiacán and Cuernavaca (Mexico) – November 1992).
- Panel Member on Technical Aspects of the 3rd Regional Pan-American Conference of the ICID (Mexico, November 1992).
- The Hydrological Plan (Lecture on the 6th day of Water, Almodévar – Huesca, April 1993).
- Repairs to the Left Abutment of the Torrollón Day: Analysis of the Problem, Solution Performed and Development of its Behaviour (Paper presented and discussed at the 4th Spanish Workshop on Dams, CNEGP, Murcia, May 1993).
- Decommissioning of Privately Owned Dams. Possible Modification to the Use of the Argüís, Aliaga and Escuriza Dams (Paper presented and discussed at the 5th Spanish Workshop on Dams, CNEGP, Valencia, April 1995).
- Paper on the possibility of changes to the Law on matters concerning financing hydraulic infrastructures – Institute for International Research – Spain (Madrid 30th September to 1st October 1997).

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- The new layout for Basin Water Authorities (paper presented at AQUA 97, 1st Conference on Water Economy and Management, June 1997).
- IX Irrigation Subscribers' Conference (May 1998).
- Water and the Environment Seminar: Legal Framework and Lines for Financing – Universidad Internacional Menéndez Pelayo (Santander 31st August to 4th September 1998).
- Participant at the hydrological planning table for the III General Meeting of the International Network of River Basin Authorities (RIOC – Salvador de Bahía – Brazil, December 1998).
- Water and Health Conference, Real Academia de Medicina de Zaragoza (Zaragoza, April 1999).
- Meeting of the Latin American Network of River Basin Authorities. RELOC (Mendoza – Argentina, August 1999).
- II Iberian Urban Planning Conference Algarve99 (Vilamoura - Portugal, October 1999).
- VII, VIII, IX and X Workshop on Water Legislation. (March 1997, March 1998, March 1999, February 2000).
- III Civil Engineering Conference. Paper on state-owned companies and financing infrastructures (Barcelona, November 1999).
- Chairman of the Organising Committee for the Water Exhibition, SMAGUA 2000 (March 2000).

LECTURING ACTIVITIES

Lecturer for the International Engineering Masters in Irrigation, given and organised by the CEDEX and Madrid Polytechnic University.

APPOINTMENTS AND PARTICIPATIONS

Chairman of the River Ebro Basin Authority (Royal Decree 1658/1996, dated 5th July). (1996-2000)

Chairman of Aguas de la Cuenca del Ebro, S.A. (1997-2000), Chairman of Canal Segarra Garrigues S.A. (1999-2000), Chairman of Canal de Navarra S.A. (1999-2000). The three are state owned public companies for developing hydraulic infrastructures in Ebro River Basin, founded in these years with the impetus provided by the River Ebro Basin Authority.

Spokesman for the Hydraulics Committee of the Civil Engineers College (at the suggestion of the Aragón and La Rioja Divisions) with the agreement of the Governing Body on 10th October 1992 (until 1996) and now again Spokesman for the Water and Energy Committee since 2004.

Spokesman for the National Water Council and its Standing Committee.

Chairman of the Organising Committee for SMAGUA 2000 (International Water and Environment Exhibition).

Member of the Forum for the World Dam Committee (advisor to the World Bank and the UICN) (1998 – 2000).

Distinguished by several User's Organizations in Spain: Gold Medal of the Comunidad General de Regantes de los Canales de Urgel, Honour Spokesman of Sindicato Central de Regantes de la Cuenca del Matarraña.

"Civil Engineer of the Year 2000" (Demarcation of Aragón del Colegio de Ingenieros de Caminos, Canales y Puertos).

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PUBLICATIONS

Experiences in repairing Channels with unconventional materials (Special Monographic Issue Num. 5 from the Civil Engineers College, Repairing Concrete Hydraulic Works).

Problems affecting the foundations for the left abutment of the Torrollón Dam: solution established, repair works and their behaviour (Public Works Journal, January - February 1992, special issue on the occasion of the XVII International Conference on Large Dams in Vienna).

Water Legislation Seminar.

Hydraulic Works in Aragón (CAI-100 Collection, 1999).

LANGUAGES

Spanish and English.