



**elektroprojekt**

*Established 1949*

Consulting Engineers

**elektroprojekt**

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Established 70 years ago, in 1949, **Elektroprojekt** has since developed from a company specialized in design of hydroelectric and thermal power plants into a company unique in the region for its scope of activities in the fields of power generation, water and environmental management, and nature conservation. Such a development has been contributed by Elektroprojekt's experts and their broad experience in those fields. Fifty out of 100 employees are certified engineers, and a number of specialists on the **Elektroprojekt** staff are authorized for validation of foreign design documentation in all building sector segments. Many professionals have established traditionally strong partnerships with scientific, research and educational institutions, and external specialists covering the fields not in the narrow scope of the company's expertise (natural sciences, biotechnology, sociology). Elektroprojekt's experience and capacities for managing multidisciplinary projects should be particularly highlighted, as well as for elaborating and evaluating complex multipurpose infrastructure systems. All the projects are undertaken and implemented with full awareness of socio-economic requirements, considering their nature conservation and environmental protection aspects.

**Elektroprojekt** has been working for decades with strong sense of responsibility for the national interests. In international projects implemented in 28 countries on four continents - from the USA over the Mediterranean Africa to New Guinea - the company has always endeavoured to meet its clients' requirements while promoting responsibility towards local communities. Such an attitude enabled **Elektroprojekt** to achieve technically reliable, economically efficient and environmentally sustainable solutions. This attitude is reflected in the company's mission statement:

**creating reliable, efficient and sustainable  
harmony of construction and technology with mankind and nature  
for present and future generations.**

The mission has been an inspiration to previous generations and young people joining **Elektroprojekt** alike. The young are prepared from the early days to assume the role of their predecessors, whose aims and achievements are deeply embedded in the company's professional philosophy and daily practice. The company's products, the documentation developed during the past years, create a unique archive comprising tens of thousands of designs, studies, analyses, manuals, books, and hundreds of thousands of drawings.

As the turnover of employees is rather low, the currently employed have on average 16 years of service in **Elektroprojekt**. Masters and doctors of science and other Elektroprojekt specialists are lecturing at the University of Zagreb Faculty of Civil Engineering, Faculty of Science, and Zagreb Polytechnic, which grants Elektroprojekt the status of a scientific institution.

**Elektroprojekt** has had a long tradition in implementation of its in-house quality assurance and control policy, environmental protection and nature conservation, health and safety, as confirmed by recertification according to the quality control ISO standards - ISO 9001, the environmental protection ISO 14001, and the occupational health and safety OHSAS 18001 standard. Responsibility towards sustainability of the design solutions is confirmed by setting up a permanent team of experts in charge of the environmental and nature impacts assessment of the company's activities. Rendering consultancy services on projects funded by the World Bank, United Nations, various European banks and funds in the field of power generation, water management, environmental protection and nature conservation has given the company an opportunity to gain invaluable knowledge of procedures, guidelines and requirements faced with by consultants involved in implementation of projects funded by these institutions.

**Elektroprojekt** owns two companies: Nukel (Slovenia) and Harna (Croatia), and has had a registered office in Teheran (Iran) since 1964. Elektroprojekt is a private joint-stock company with about 280 shareholders according to data for 2015. Total property value amounts to 19,000,000, total assets and reserves to 17,000,000, and revenues to 7,000,000.

**Design, consulting and engineering  
of development, building and management  
in energy sector, water management,  
nature conservation, municipal services,  
public facilities and telecommunications**



BREZINA DAM



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Construction and technology  
in harmony with mankind and nature  
for present and future generations

**Dams and  
Hydropower  
Structures  
in Algeria**



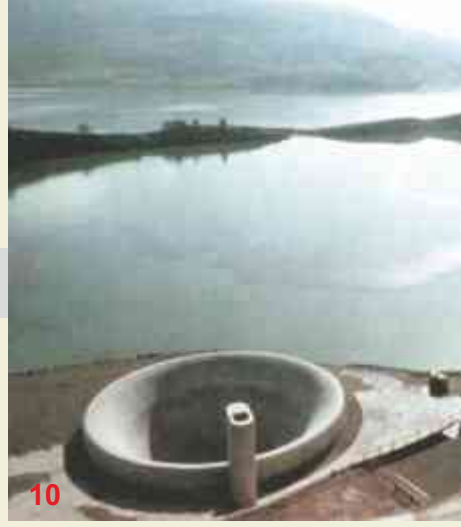
# PROJECTS IN ALGERIA

One of countries **elektroprojekt** stopped in while working worldwide was Algeria, where it has been present since the eighties of the last century, working on development of studies, design documentation, supervision and other activities carried out on hydraulic engineering projects.

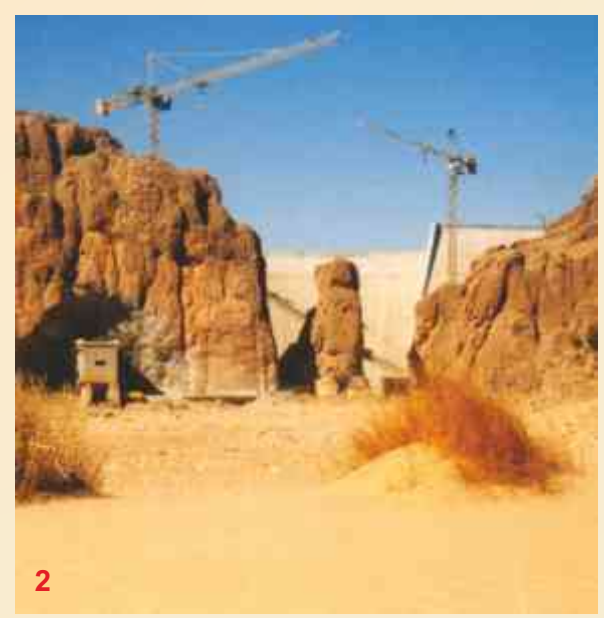
**elektroprojekt** has been engaged on supervision of new dam construction and reconstruction of the existing dams.



The Sidi Yacoub dam is located in Ech-Chellif district, some 28 km south from the city of the same name. A 28 million m<sup>3</sup> retention basin intended for irrigation of agricultural land and potable water supply of the greater area was impounded by construction of this rockfill dam. The dam has following characteristics: 94 m high, 400 m long in crest; backfill type; dam volume 3,690,000 m<sup>3</sup>.



## BREZINA DAM

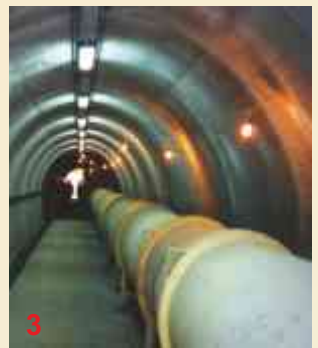


The Brezina dam is located at the southern slopes of the Sahara Atlas, some 80 km far from the city of El Bayadh. It is presently the southernmost concrete dam erected in the Sahara region.

The dam closes a narrow canyon of Ed Diss limestone range at the confluence of the torrential streams El Mellah and El Rhoul.

The dam has following characteristics: 63.50 m high, 152.0 m long in crest; arch-gravity type; dam concrete volume 68,000 m<sup>3</sup>; retention basin capacity 123 million m<sup>3</sup>.

1. Dam closure section and diversion gallery outlet portal
2. Dam under construction ( 1996 )
3. Irrigation pipes in diversion tunnel
4. Water wave transfer through outlet structure
5. Dam under construction ( 2000 )



## SIDI YACCOUB DAM



6. Tailrace tunnel under construction
7. Stilling basin and bottom outlet under construction
8. Grouting gallery under construction
9. Dam under construction
10. Spillway structure



## UPSTREAM MEMBRANE REMEDIATION

One of Elektroprojekt's projects in Algeria was development of design documentation for remediation of the existing Bou Hanifia, Sarno and Ghib dams. The remediation included replacement of the existing impervious facing on the upstream dam slope, remediation and reconstruction of drainage canals, walls, and other hydrotechnical structures.

11. Ghib Dam spillway structure and upstream membrane before reconstruction
12. Ghib Dam upstream membrane reconstruction
13. Ghib Dam upstream membrane reconstruction with prefabricated RC slabs
14. Sarno Dam spillway structure and upstream membrane before reconstruction - view
15. Sarno Dam upstream asphalt membrane reconstruction
16. Reconstructed Sarno Dam spillway structure and drainage canal
17. Bou Hanifia Dam upstream membrane remediated with RC slabs cast in place

