



ONE Company

MULTIPLE Expertise

the company

intec, GOPA-International Energy Consultants GmbH, is an independent German consulting engineers company focused on developing practical, innovative and cost-effective solutions for the design and improvement of **power systems** and the application of **renewable** and **sustainable energy** technologies.

Thanks to its vast know-how and advanced technological capability and with a highly qualified, multi-disciplinary team of experts, **intec** has a proven track record of more than 100 wide-scale projects, successfully carried out during the last years on four continents.

intec combines and harmonises the professional competence of its experts and their extensive international experience into well-proven project management and monitoring, so as to meet the challenges and requirements of national, regional or interregional energy systems.

intec's engineering competence covers electrical, mechanical and hydro-mechanical engineering, civil works, control, protection and telecommunications. Services include technical aspects, but encompass i.a. also economic studies, social and environmental impact analyses, financial management and organisation, as well as human development.

Our extensive international experience makes us a competent and reliable partner in delivering management, engineering and development solutions for public and private customers in the energy sector.

intec significantly increased its presence in selected regions – Abu Dhabi and Nigeria – and is in the position to provide its customers with the best services in accordance with their needs and the particularities of the local power supply systems.

We have the technical, organisational and human capacities to implement highly complex projects, either alone or in consortium with renowned national and international consulting companies. In that way, we offer comprehensive and high-standard engineering and consulting services for all stages of a project.



the GOPA Group

intec is owned by GOPA Consultants and is part of GOPA Consulting Group, one of the strongest consulting groups in Europe, which can draw on some 40 years of experience in the development field. Within the GOPA Group, **intec** covers the entire international business segment of energy engineering.

By means of the competence diversity of the Group, **intec** has access to additional professional resources to participate in large and complex projects.

our clients

intec's clients are manifold: ministries and governments, national and international energy utilities, industrial corporations and private enterprises, project developers and investors, as well as international financing institutions and donor organisations.



Lending Institutions

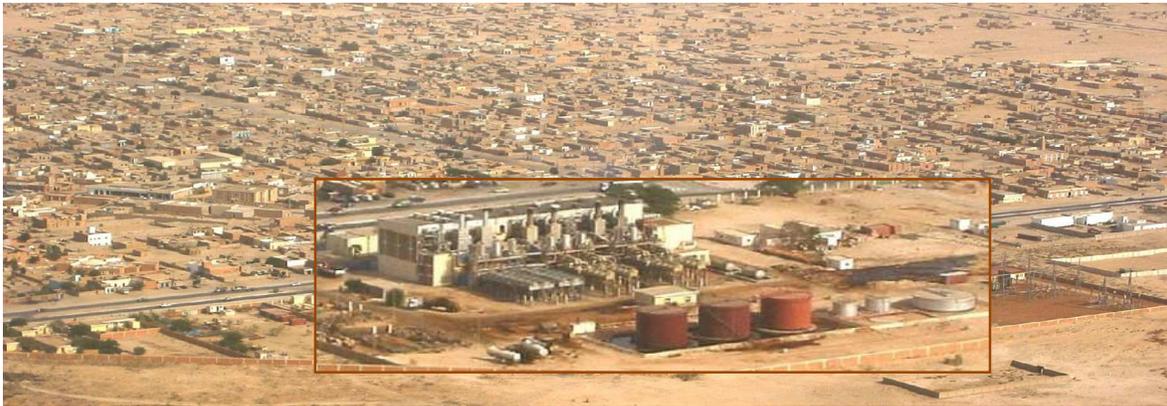
African Development Bank (AFDB)
 Agence Française de Développement (AFD)
 Arab Fund for Economic and Social Development
 Asian Development Bank (ADB)
 Danish International Development Agency (DANIDA)
 Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ)
 European Bank for Reconstruction and Development (EBRD)
 European Commission (EC)
 European Investment Bank (EIB)
 Inter-American Development Bank (IDB)

International Bank for Reconstruction and Development (IBRD)
 International Development Association (IDA)
 Islamic Development Bank (IDB)
 Kreditanstalt für Wiederaufbau / KfW Entwicklungsbank (KfW)
 Kuwait Fund for Arab Economic Development
 Ministry for Foreign Affairs, Finland
 National Bank of Kuwait
 OPEC Fund for International Development (OFID)
 United Nations Development Programme (UNDP)
 West-African development Bank
 World Bank

power generation

intec provides engineering and management solutions for public and industrial energy enterprises in favour of new thermal-power and combined heat-and-power plants. Our in-depth familiarity with conventional, gas-turbine and diesel-engine technology using various fossil fuels forms a sound basis for the optimisation and assessment of existing plants.

Our professional staff of engineers, planners and environmental scientists has extensive experience in all classical planning tasks and in project management skills, including concept development, construction management and plant commissioning to provide state-of-the-art, customised solutions.



intec provides comprehensive technical-economic consulting, planning and design, on top of handling all contract phases, from civil and process engineering, to mechanical engineering, to electrical and I&C engineering.

... in brief

Design, planning, optimisation and grid connection for power generation units, e.g. combined & single cycle power plants, diesel generators, thermal power plants

Conversion from single cycle to combined cycle gas turbine plants

Extension of power plants with additional generation units

Rehabilitation of power plants

Design, planning and optimisation of hydropower generation units up to 80 MW

power transmission & distribution

The planning, rehabilitation, extension, operation and control of power systems constitute one of intec's key activities. Our experts possess all the professional expertise and appropriate knowledge in the field of electrical systems: from governance, due diligence, strategy, system design, planning, construction to operating and maintaining electrical assets.

Using high-performance tools, **intec** offers its clients high quality consulting and engineering services in the field of ultra-high-voltage transmission systems, medium and low-voltage distribution grids. This includes overhead lines, cables, substations, transformers, switchgear, protection systems and electrical energy storage.

Together with its clients, we define the tools to increase the availability of the network, to respond faster and more effectively to malfunctions, and to reduce the risk of system disturbances and outages.



We assure quality, safety and compliance to all (inter)national standards that are relevant for your business. Being a recognized specialist in **Smart Grids** we enable you to incorporate optimum design to be prepared for the electricity grid of the future.

HV and EHV Power Transmission Systems

Design, planning and optimisation of transmission and distribution lines at voltage levels of up to 750 kV

Options and concepts for network extensions, network unbundling and dismantling

Substations and switchgear at all voltage levels, incl. transformer stations, protection and control systems

Air and gas-insulated switchgear technology

Application of Energy Storage Systems

- Feasibility studies and comparison between technologies
- Detailed simulations of the impacts on the load curves
- Cost / benefit analyses
- Detailed technical and financial analyses of high-efficiency battery energy storage systems

renewable energy

intec offers its clients high-quality services in the design, planning and implementation of RE solutions which encompass solar, small hydro, biomass/biogas and wind energy projects. Our team is dedicated to providing an exceptional level of service maintaining high standards of work quality in order to ensure the success of every project we run with our clients.

Solar Power

intec's activities in "the power technology of the future" focus on professional design and implementation services for a wide array of solar applications including solar home systems (SHS), off-grid and on-grid installations, large-scale solar power generation, photovoltaic systems (stand-alone and building-integrated installations), concentrated solar power (CSP), and hybrid solar power.



Wind Energy

Our experience in wind resource assessment and development projects combined with many years as wind energy consultants, allows us to develop wind parks with various capacities, from the conceptual phase to the installation and operation of the wind turbines.

We provide grid studies and grid connection assessments for wind and PV, on system or project level.

Small Hydro Power

Our experts offer comprehensive hydroelectric design and consulting services, including project planning, engineering, EIA, project management and supervision in all phases of hydroelectric power development. This covers dams, spillways, tunnels, power transmission lines and electrical substations.

Renewable energy technology assessments

Resource assessment, planning & feasibility studies, and data analysis

Technical advice, design, owner's engineer services & guidance during contracting

Due diligence, risk assessment & investor guidance

Performance monitoring & optimization

sustainable energy

Our wide experience in the different energy sectors enables us to develop integrated concepts and systems for a sustainable utilisation of energy sources. This covers the environmentally friendly generation of electricity and heat using renewable energy sources as well as the rational use of energy and efficiency improvement.

Mitigating greenhouse gas emissions requires a variety of actions throughout the energy sector, beginning with strategy development. Our experts know how to combine different technologies with accompanying measures, such as intelligent filters or process optimisation in order to facilitate the reduction of greenhouse gas and pollutant emission.

We develop global strategies through the implementation of energy efficiency, conservation and renewable energy programs, clean energy program design and implementation, smart grid design, technology audits, and product and process engineering.

Energy efficiency

We develop new and innovative concepts for energy efficiency measures and their promotion, always keeping in mind the factor of cost-effectiveness.



Integrated concepts for the utilisation of clean energy sources and technologies

Energy efficiency in buildings and industry

GHG emission mitigation & Kyoto flexible mechanism

Air quality & pollution control (e.g. particulates, SO₂, NO_x)

Environmental assessments & audits

Environmental consciousness

As an internationally operating energy consulting company, we are committed to protecting the environment and preserving natural resources. Thus, environmental protection and climate change mitigation are integral parts of our activities. We continuously support our clients in the observance of these issues and the increase of energy efficiency.

