#### **CURRICULUM VITAE**

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### Key qualifications

- Expertise in power system studies covering the planning, modeling, simulation and techno-economic analyses with power system softwares such as CYME, POWER FACTORY (Dig Silent), EMTP-RV, SIMSEN, EUROSTAG, PSS®E and NEPLAN. Studies cover:
  - Grid compliance and transborder interconnection lines studies including
    - Load flows analyses with equipments loadings and losses assessment
      - Short-circuit currents analyses as per IEC 60909 with faults critical clearing times and voltage ride through capabilities assessment
      - Contingency analyses with N-1 to N-k criterion
      - Transient and frequency stability analyses
  - Grid connection studies with :
    - o Technico-economical optimization of energy evacuation works (switchyards and transmission lines
    - High voltage overhead transmission lines designing (conductors cross-section definition based on economic, thermal, voltage drop, short-circuit current and corona effect criterion, routes determination, number and types of towers)
    - o Medium voltage cables sizing as per IEC standard
    - High voltage switchyards arrangement and main equipment characteristics definition along with insulation levels coordination
    - Auxiliary transformers and direct current systems arrangement and sizing (UPS, batteries and chargers)
  - Reliability analyses with :
    - Units dispatching and operation costs optimization
    - Battery Energy Storage systems assessment
    - HDVC interconnection lines reliability analyses
    - Wind farms and PV plants curtailing assessment

#### 2. Specialization in renewable energy power plants engineering

- Designing studies of hydroelectric generators, erection works supervision, on-site acceptance and commissioning tests
  - Wind farms transmission systems designing and losses optimization
  - PV plants operation and maintenance (performances and reliability analyses)
  - Factory acceptance tests of MV/HV electromechanical equipments

#### 3. Experience in management

- o International projects and multidisciplinary teams management (up to 10 multicultural experts coordination)
- Technical assistance to project Owners (as head of electromechanical department)
- Successful establishment of technical and financial proposals in response to calls for tenders

#### EDUCATIONAL BACKGROUND

Classes préparatoires, TSI (Technology and Engineering Science), Cachan, France

2005 A two-year intensive program preparing for the national competitive exam for entry to French engineering schools- Gustave Eiffel High School, Cachan, France

2008 Engineer Diploma - Specialization: Industrial products and systems development - Ecole Centrale Nantes

#### TRAININGS

- 2015 Training on the power system transient software EMTP-RV
- 2010 Training on the hydroelectric transient simulation software SIMSEN
- 2009 Training on the power system software CYME
- 2008 Training on the management of working time and teams

### PROFESSIONAL RECORD

2020 – 2021	<ul> <li>Mali Asset Management Director – Akuo Mali Services (Akuo Energy group)</li> <li>Under the responsibility of the Solar Business Unit Director, lead :</li> <li>Akuo Kita Solar power plant supervision, operation and maintenance (50 MWp)</li> <li>Management of technical O&amp;M team and third parties</li> <li>Site management (QHSE, E&amp;S, Security)</li> </ul>
2019 – 2020	<ul> <li>Senior Power System Engineer – Tractebel/Engie Impact</li> <li>Under the responsibility of the segment team leader, lead :</li> <li>Power system studies</li> <li>Assistance to team young or newly arrived engineers</li> <li>On-site data collection missions or reports presentations at the Client's office</li> </ul>
2012 - 2019	<ul> <li>Project Engineer - Tractebel Engineering</li> <li>Under the responsibility of the head of competence center department, lead :</li> <li>Project management and coordination</li> <li>Technical assistance to projects owners (as expatriate)</li> <li>Management of trainees</li> <li>Establishment of internal reference technical documents</li> <li>Elaboration of technical and financial proposals in reply to call for tenders</li> </ul>
2008 - 2012	Design Engineer - Tractebel Engineering France Under the responsibility of the technical expert in the competence center department, lead : Calculation tools development Contractors' calculation notes assessment Calculation reports establishment

### COUNTRIES OF WORK EXPERIENCE

Algeria, Belgium, Burkina Faso, Cameroon, China, Dominica, Ethiopia, France, Gambia, Guinea, Italy, Kenya, Mali, Netherlands, Nigeria, Russia, Senegal

#### SPECIFIC SKILLS

Computing : Advanced user of office tools (Word, Excel, Powerpoint) Programming : Java, Visual Basic

<u>Speaking</u> <u>Writing</u> <u>Reading</u>
French Bilingual Bilingual Bilingual
English TOEIC (875/1000) Advanced Advanced Advanced
Spanish Basic Basic Basic

#### Hobbies

Association Sansangué Espoirs	Founder of the Association dedicated to the development of the village of
	Sansangué (Fund raising, organization of cultural events)

Sport

Fitness

### LAST REFERENCES – POWER SYSTEM ENGINEERING - WITH POWER FACTORY

2020	Name of assignment or Project: De Groene Delta Wind Farm Project Year: July 2020 Location: Belgium Client: Engie Main Project Features: 2 x 3.5 MW Wind Farm Desitions held Deven Contem Facine and
	Positions held: Power System Engineer Activities performed: Grid compliance study of Nordex 2 x 3.5 windmills in the Belgian grid Software used: Power Factory
2018	Name of assignment or Project: Greater Banjul Modernization project Year: September 2018 Location: Gambia Client: National Water and Electricity Company Limited (NAWEC) Main Project Features: 225 kV transmission line between Brikama and Kotu substations (32 km) Positions held: Power system engineer Activities performed: Power system analysis of the Gambia High Voltage transmission system through a load flow, short circuit currents and contingency analysis. Software used: POWER FACTORY
2018	Name of assignment or Project: Souapiti Hydropower plant project Year: June 2018 Location: Guinea (Conakry) Client: Administration et Contrôle des Grands Projet et Marchés Publics (ACGPMP) Main Project Features: Souapiti: 4 units, installed capacity of 4 x 112 MW, Positions held: Power system engineer Activities performed: Integration studies of the hydroelectric power plant of Souapiti in the interconnected electrical network of Guinea through a load flow, short circuit currents, contingency analysis and transient stability analysis with Power Factory software Checking of the need of generators to operate as synchronous condensers. Software used: POWER FACTORY
2018	Name of assignment or Project: Stability study of the Guinean power system Year: May 2018 Location: Guinea (Conakry) Client: Administration et Contrôle des Grands Projet et Marchés Publics (ACGPMP) Main Project Features: Entire power system stability analysis Positions held: Power system engineer Activities performed: Checking of transient stability studies of the Guinean interconnected electrical network through a load flow, short circuit currents, contingency analysis and transient stability analysis with Power Factory software Software used: POWER FACTORY

# LAST REFERENCES - POWER SYSTEM ENGINEERING - WITH PSS®E

2019 Name of assignment or Project: Lot 3 - Resilience Feasibility study of the transmission system of DOMINICA
 Year: June 2019
 Location: DOMINICA
 Client: French Development Agency (AFD)
 Main Project Features: Resilience study of the transmission system
 Positions held: Power System Engineer
 Activities performed: Feasibility studies of the Dominican transmission system upgrade through a load flow, short circuit currents and contingency analysis.
 Software used: PSS®E

2019 Name of assignment or Project: SENELEC Protection plan stability study Year: June 2020 Location: SENEGAL Client: SENELEC (Senegalese utility) Main Project Features: SENELEC power system protection plan study Positions held: Power System Engineer Activities performed: Audit of SENELEC PSS®E model with focus to transformers earthing systems modeling. Software used: PSS®E

# LAST REFERENCES – POWER SYSTEM ENGINEERING - WITH CYME

2019	Name of assignment or Project: Dibamba power plant extension project Year: February 2019 Location: Cameroon Client: Dibamba Power Development Company Main Project Features: Extension of existing 88 MW thermal power plant with additional 180 MW Positions held: Power System Engineer Activities performed: Integration studies of the extension of the Dibamba power plant into the Cameroon South Interconnected Network
	through a load flow, short circuit currents, contingency analysis and reactive margins determination at delivery point with CYME software. Software used : CYME
2016	Name of assignment or Project: Grand Eweng hydropower plant project Year: 2016 Location: CAMEROON Client: Hydromine (New York, United States) Main Project Features: 6 units, installed capacity of 6x200 MW Positions held: Power system engineer Activities performed: Integration studies of the hydroelectric power plant of Grand Eweng in the southern interconnected electrical network of Cameroon through a load flow, short circuit currents and contingency analysis. Software used: CYME
2015	Name of assignment or Project: MEMVE'ELE hydropower plant project Year: 2014 - 2015 Location: CAMEROON Client: MINEECAM (YAOUNDE - CAMEROON) Main Project Features: 4 vertical Francis turbines, installed capacity of 4x52,75 MW Positions held: Power System Engineer Activities performed: Integration studies of the hydroelectric power plant of Memve'ele in the southern interconnected electrical network of Cameroon through a load flow, short circuit currents analysis and transient stability analysis
2014	Name of assignment or Project: ADJARALA hydropower plant project Year: 2014 Location: BENIN Client: COMMUNAUTE ELECTRIQUE DU BENIN (CEB) (Cotonou - BENIN) Main Project Features: 3 vertical Francis turbines, installed capacity 3x49MW Positions held: Project and power system engineer Activities performed: Detailed design and tender documents of energy evacuation works (high voltage transmission lines and switchyards) Integration studies of the hydroelectric power plant of Adjarala in the electrical network of CEB through a load flow analysis and assessment of units ability to work as synchronous condensers Software used: CYME
2012	Name of assignment or Project: KOUKOUTAMBA hydropower plant project Year: 2011-2012 Location: GUINEA Client: Organisation pour la Mise en Valeur du Fleuve Sénégal (Dakar - SENEGAL) Main Project Features: 4 vertical Francis turbines, installed capacity 4x73,5MW Positions held: Design Engineer Activities performed: Integration studies of the hydroelectric power plant of Koukoutamba in the interconnected network of OMVS and OMVG (static analysis) Software used: CYME

# LAST REFERENCES – POWER SYSTEM ENGINEERING - WITH SCANNER, SMARTFLOW/EUROSTAG

2020	Name of assignment or Project: CLSG protection and defense plan Year: 2020
	Location : Cote d'Ivoire, Liberia, Sierra Leone, Guinea Client: Transco-CLSG
	Main Project features: Transmission system studies
	Positions held: Power System Engineer
	Activities performed:
	Load flow and voltage compensation analysis studies for the different sequences of commissioning of CLSG system Software used: SMARTFLOW/EUROSTAG
2020	Name of assignment or Project: OMVS floating PV Project Year: January 2020
	Location: Mali, Mauritania, Senegal
	Client: OMVS ( Organisation pour la Mise en Valeur du fleuve Sénégal)
	Main Project Features: Floating PV plant of 200 MW on a hydro power plant dam reservoir
	Positions held: Power System Engineer
	Activities performed: Integration studies of a 200 MW floating PV plant on hydro power plant dam reservoir (static and dynamic studies) Software used: SMARTFLOW/EUROSTAG
2019	Name of assignment or Project: KOSSOU PV Project
	Year: November 2019 -December 2019
	Location: Ivory Coast
	Client: CI-ENERGIES
	Main Project Features: Floating PV plant of 20 MW on the KOSSOU hydro power plant dam reservoir
	Positions held: Power System Engineer Activities performed: Integration studies of a 20 MW floating PV plant on the KOSSOU hydro power plant dam reservoir (static and
	dynamic studies)
	Software used: SMARTFLOW/EUROSTAG
2019	Name of assignment or Project: Gridlink interconnection Project
	Year: October 2019
	Location: France/United Kingdom
	Client: Baringa Partners
	Main Project Features: HVDC interconnection transmission line of 525 kV between France and United Kingdom (156 km-1400 MW)
	Positions held: Power System Engineer
	Activities performed: DC Load flow and reliability analysis (B5 and B6 indicators calculation related to grid losses variation and security of supply respectively) with SCANNER software Software used: SCANNER
2019	Name of assignment or Project: Burkina Faso system stability study for integration of renewable energy
	Year: May to November 2019
	Location: BURKINA FASO
	Client: Ministry of Energy (PASEL)
	Main Project Features: National interconnected network
	Positions held: Power System Engineer
	Activities performed: Probabilistic studies of Burkina Faso national network with the integration of photovoltaic power plants Assessment of load curtailment, spinning reserve, generation costs and network constraints Software used: SCANNER, SMARTFLOW/EUROSTAG
2019	Name of assignment or Project: Ghoubet Wind Farm
2019	Year: June 2019
	Location: DJIBOUTI
	Client: EDD (Electricité de Djibouti)
	Main Project Features: Ghoubet Wind Farm: 58.9 MW
	Positions held: Power System Engineer
	Activities performed: Probabilistic integration studies of Ghoubet Wind Farm in the Djiboutian grid with load curtailment and spinning
	reserve assessment
	Software used: SCANNER
2019	Name of assignment or Project: Nigeria-Benin interconnection Project

2019 Name of assignment or Project: Nigeria-Benin interconnection Project Year: March 2019

# LAST REFERENCES - POWER SYSTEM ENGINEERING - WITH SCANNER, SMARTFLOW/EUROSTAG

Location: Nigeria/Benin Client: West African Power Pool (WAPP) Main Project Features: Interconnection transmission lines of 330 kV between Nigeria (Ajegunle) and Benin (Onigbolo) (78 km) Positions held: Power System Engineer Activities performed: Load flow, short circuit currents and contingency analysis with EUROSTAG software Software used: SMARTFLOW/EUROSTAG

2017	Name of assignment or Project: Tanjung Sakti HPP Project Year: 2017 Location: Indonesia Client: PT Indonesia Power Main Project Features: hydroelectic power plant of 3 x 40 MW Positions held: Project Engineer Activities performed: Integration studies of Tanjung Sakti HPP: Design of HV transmission lines and switchyards, Power system analysis, Costs estimation of energy evacuation works
2017	Name of assignment or Project: Nam Lik hydropower plant project Year: 2017 Location: LAOS Client: Nam Lik 1 Power Company Main Project Features: 2 horizontal bulb turbines, installed capacity 2x32,5 MW Positions held: Project Engineer Activities performed: Review of earthing system calculation notes
2016	Name of assignment or Project: Montagne d'Or transmission line project Year: 2016 Location: FRENCH GUIANA Client: Nord Gold Main Project Features: 1 transmission line of 90kV, 120km (Citron – St Laurent du Maroni) Positions held: Project Engineer Activities performed: Prefeasibility and feasibility study of energy evacuation works with the electrical designing of transmission line (cross-section calculation under thermal, short-circuit, voltage drop and corona effect criterion, determination of economical cross- section)
2016	Name of assignment or Project: Nam Theun hydropower plant project Year: 2016 Location: LAOS Client: Electricity Generating Public Company Limited (EGCO) Main Project Features: 3 vertical Francis turbines, installed capacity 2x265 MW+1x133 MW Positions held: Project Engineer Activities performed: Due diligence related to the hydroelectric power plants energy evacuation works designing. Review of 500 kV and 115 kV switchyards and transmission lines design.
2016	Name of assignment or Project: Kandadji hydropower plant project Year: 2016 Location: NIGER Client: Haut-Commissariat à l'Aménagement de la Vallée du Niger (HCAVN) Main Project Features: 4 vertical Kaplan turbines, installed capacity 4x32MW Positions held: Project Engineer Activities performed: Detailed design and tender documents specification for energy evacuation works (132kV transmission lines and 132kV/33kV switchyard)
2016	Name of assignment or Project: 3 mini hydropower plants projects in Liberia (Gbedin falls, Ya Creek, River Gee) Year: 2016 Location: LIBERIA Client: African Development Bank and Rural and Renewable Energy Agency (ADB AND RREA) Main Project Features: 3 mini hydropower plant projects and associated transmission lines Positions held: Project Engineer Activities performed: Feasibility study of the 3 mini hydropower plants and associated transmission lines (30kV, 66kV)

2016 Name of assignment or Project: Mong Hsat hydropower plant project Year: 2016

Location: MYANMAR Client: Suntac Power Main Project Features: 2 units, installed capacity 2x16MW Positions held: Project Engineer Activities performed: Feasibility study of energy evacuation works (33kV, 66kV and 132kV transmission lines and 132kV/33kV switchyards) 2015 Name of assignment or Project: FARKWA pumping station project Year: 2015 Location: TANZANIA Client: MINISTRY OF WATER (Dar es Salaam - TANZANIA) Main Project Features: 6 pumping units, installed capacity 6x1,5MW Positions held: Project Engineer Activities performed: Detailed design and tender documents of the pumping station electrical systems 2015 Name of assignment or Project: PWALUGU hydropower plant project Year: 2015 Location: GHANA Client: VOLTA RIVER AUTHORITY (ACCRA - GHANA) Main Project Features: Installed capacity 3x30MW Positions held: Project Engineer Activities performed: Feasibility studies of powerhouse electrical auxiliaries and energy evacuation works (161kV transmission lines and switchyard) 2015 Name of assignment or Project: 4 mini hydropower plant projects Year: 2014 - 2015 Location: GUINEA Client: ADMINISTRATION ET CONTROLE DES GRANDS PROJETS PUBLICS (ACGP) (Conakry - GUINEA) Main Project Features: 4 mini hydropower plant projects, installed capacity of 2x3,15MVA, 3x1,25MVA, 2x24,5MVA, 2x15MVA Positions held: Project Engineer Activities performed: Detailed design and tender documents of energy evacuation works (high voltage transmission lines and switchyards) 2015 Name of assignment or Project: MEMVE'ELE hydropower plant project Year: 2014 - 2015 Location: CAMEROON Client: MINEECAM (YAOUNDE - CAMEROON) Main Project Features: 4 vertical Francis turbines, installed capacity of 4x52,75 MW Positions held: Power System Engineer Activities performed: Integration studies of the hydroelectric power plant of Memve'ele in the southern interconnected electrical network of Cameroon through a load flow, short circuit currents analysis and transient stability analysis 2014 Name of assignment or Project: ARTIBONITE 4C hydropower plant project Year: 2014 Location: HAITI Client: SINOHYDRO CORPORATION LTD (Beijing - CHINA) Main Project Features: installed capacity 2x16MW Positions held: Project Engineer Activities performed: Feasibility study of energy evacuation works (high voltage transmission lines and switchyards) 2014 Name of project: ADJARALA hydropower plant project Year: 2014 Location: Benin Client: Communauté électrique du Bénin (CEB) Main Project Features: 3 vertical Francis turbines, installed capacity 3x49MW Position held: Project Engineer Activities: Detailed design and tender documents of energy evacuation works (high voltage transmission lines and switchvards) 2012 Name of assignment or Project: KOUKOUTAMBA hydropower plant project Year: 2011-2012 Location: GUINEA Client: Organisation pour la Mise en Valeur du Fleuve Sénégal (Dakar - SENEGAL) Main Project Features: 4 vertical Francis turbines, installed capacity 4x73,5MW Positions held: Design Engineer Activities performed: Integration studies of the hydroelectric power plant of Koukoutamba in the interconnected network of OMVS and OMVG (static analysis) with CYME software.

	Energy evacuation works feasibility and detailed design studies coordination (high voltage transmission lines, high voltage switchyards)
2010	Name of assignment or Project: ANDEKALEKA hydropower plant project Year: 2009 - 2010
	Location: MADAGASCAR
	Client: JIRAMA (Antananarivo - MADAGASCAR)
	Main Project Features: Power plant extension works with two additional units G3 and G4, 2 vertical Francis turbines, total rated output of 76 MW
	Positions held: Design Engineer Activities performed: Checking of the generators technical specifications. Checking of the generators drawings. Checking of generators
	windings bars Factory Acceptance Tests results
2009	Name of assignment or Project: DISI MUDAWARRA water transfer project Year: 2009
	Location: JORDAN
	Client: Gama Enerji (ANKARA - TURKEY)
	Main Project Features: water transfer project from Disi Mudawarra to Amman
	Positions held: Design Engineer
	Activities performed: Pumping station transmission lines electrical losses calculation
2009	Name of Project : GRAND POUBARA hydropower plant project
	Year : February- November 2009 Main Project Features : 4 vertical Francis turbines, installed capacity of 4x40 MW
	Position held : Design Engineer
	Activities performed : Units short circuit currents assessment
2008	Name of assignment or Project: Rural province of Guidimakha Xéri Kofo photovoltaic power plant project
	Year: 2008
	Location: MALI
	Client: Association du Village de Sansangué pour le Développement Main Project Features: Electrifications of the rural province of Guidmakha Xéri Kofo in Mali
	Positions held: Project Manager
	Activities performed: Designing of a photovoltaic power plant in an isolated network
2008	Name of assignment or Project: MACAGUA II hydropower plant project
	Year: 2008
	Location: VENEZUELA Client: Electrificacion del Caroni
	Main Project Features: 2 Kaplan turbines, installed capacity of 86 MW
	Positions held: Design Engineer
	Activities performed: Checking of the generators technical specifications. Designing of technical room air heaters
2008	Name of assignment or Project: MARCONI hydropower plant project Year: 2008
	Location: ITALY
	Client: Studio Frosio
	Main Project Features: 2 Kaplan turbines, installed capacity of 32 MW
	Positions held: Design Engineer Activities performed: Designing of the generators and heat exchangers
2008	Name of assignment or Project: SOUBRE hydropower plant project
	Year: 2008
	Client: CI-Energies ABIDJAN-PLATEAU (Abidjan - IVORY COAST) Main Project Features: SOUBRE hydropower plant project
	Positions held: Design Engineer
	Activities performed: Substation Electrical network single line diagram update
2008	Name of assignment or Project: AMAILA FALLS Hydropower Plant Project
2000	Year: 2008
	Location: BRAZIL
	Client: ANDRITZ HYDRO Inepar do Brasil S.A. (Barueri - São Paulo - BRAZIL) Main Project Features: AMAILA FALLS Hydropower Plant study
	Positions held: Design Engineer

Activities performed: Analysis of the generators electromagnetic parameters influence on the network stability

2006 Name of assignment or Project: Industrial project study Year: 2006 Location: FRANCE Client: Windspectra Main Project Features: Study of a windmill farm electrical losses Positions held: Student Activities performed: Creation of a software calculating windmill electrical losses according to the wind speed

# LAST REFERENCES - PROJECT MANAGEMENT - OWNER'S ASSISTANCE AND ENGINEERING

2017	Name of assignment or Project: Manantali hydropower plant project Year: 2016 - 2017 Location: MALI Client: Société de Gestion de l'Energie de Manantali (SOGEM) Main Project Features: 5 vertical Kaplan turbines, installed capacity 5x40 MW Positions held: Project Engineer Activities performed: Supervision of overhaul and re-commissioning of units 1,2,4 and 5
2015	Name of assignment or Project: Project of the Electricity Sector Strengthening in Ivory Coast (PRSECI) Year: 2015 Location: IVORY COAST Client: CI-Energies ABIDJAN-PLATEAU (Abidjan - IVORY COAST) Main Project Features: Supervision and control of Ivory Coast electrical networks strengthening works Positions held: Project Engineer Activities performed: Design review of transmission lines and switchyards, Project management
2014	Name of assignment or Project: DEVOLL hydropower plant project Year: 2014 Location: ALBANIA Client: DEVOLL HYDROPOWER (TIRANA - ALBANIA) Main Project Features: Installed capacity of 39 MW Positions held: Project Engineer Activities performed: Factory Acceptance tests on 220kV circuit breaker of Moglicë switchyard in Alstom grid's factory in Villeurbanne in France
2013	Name of assignment or Project: KALETA Hydropower Plant Project Year: August 2012 – August 2013 Location: GUINEA Client: ADMINISTRATION ET CONTROLE DES GRANDS PROJETS PUBLICS (ACGP) (Conakry - GUINEA) Main Project Features: 3 vertical Francis turbines, installed capacity of 3X70 MW Positions held: Project Engineer Activities performed: Analysis and follow-up of the Contractor planning and Billings, Review and monitoring of technical correspondence relating to the lines and stations and hydro-mechanical Equipment, Drafting of notes to aid for decision making, projects mails, meetings reports, missions reports, Organization and management of field missions, Service Staff Training
2013	Name of assignment or Project: INGA hydropower plant project - FRIPT Year: 2013 Location: CONGO (DEM. REP.) Client: CONGO ENERGIE (KINSHASA - CONGO (DEM. REP.)) Main Project Features: Overhaul of unit G27 and G28, installed capacity 2x174MW Positions held: Project Engineer Activities performed: Analysis of bidders' proposals regarding units electrical systems
2012	Name of assignment or Project: SHIRORO Hydropower Plant Project Year: 2010 - 2012 Location: NIGERIA Client: PHCN Power Holding Company of Nigeria Plc. (Abuja - NIGERIA) Main Project Features: 4 vertical Francis turbines, installed capacity of 4 x 150 MW Positions held: Project Manager Activities performed: Provision of consultancy services for repair and overhaul of unit 411G2 at Shiroro hydroelectric power plant, Coordination with turbines and generators experts, Project contract, administrative Financial and technical management
2012	Name of assignment or Project: GIBE III Hydropower plant project Year: 2009 - 2012 Location: ETHIOPIA Client: EEPCO (Addis Ababa - ETHIOPIA) Main Project Features: 10 vertical Francis turbines, installed capacity of 10x187 MW Positions held: Design Engineer Activities performed: Technical coordination of the electromechanical experts staff (around 10) in charge of construction drawings approbation
2012	Name of assignment or Project: Flood wall of the TIHANGE nuclear power plant Year: 2011 - 2012 Location: BELGIUM Client: Technum Main Project Features: 3 nuclear reactors with an installed capacity of 3000 MW Positions held: Project Manager Activities performed: Assistance services to the definition of the Thiange nuclear power plant water intake hydromechanical Equipment,

### LAST REFERENCES - PROJECT MANAGEMENT - OWNER'S ASSISTANCE AND ENGINEERING

Coordination with hydromechanical expert, Project contract, administrative, financial and technical management.

2010 Name of assignment or Project: MACAGUA I hydropower plant project Year: 2010 Location: VENEZUELA Client: EDELCA - Electrificacion del Caroni (CARACAS - VENEZUELA) Main Project Features: 6 vertical Francis turbines, total rated output of 900 MW Positions held: Design Engineer Activities performed: Factory Acceptance tests on stator winding bars in Electrozilla's factory in St Petersburg in Russia 2012 Name of assignment or Project: KOUKOUTAMBA hydropower plant project Year: 2011-2012 Location: GUINEA Client: Organisation pour la Mise en Valeur du Fleuve Sénégal (Dakar - SENEGAL) Main Project Features: 4 vertical Francis turbines, installed capacity 4x73,5MW Positions held: Design Engineer Activities performed: Establishment of bidding documents technical specifications and bill of quantities 2010 Name of assignment or Project: JIRAU hydropower plant project Year: 2009 - 2010 Location: BRAZIL, CHINA Client: ESBR (Belo Horizonte - BRAZIL) Main Project Features: horizontal bulb turbines, installed capacity 44x76,5MW Positions held: Design Engineer Activities performed: Generators excitation system Factory Acceptance Test in Dong Feng's factory in Chengdu in China. Checking of generators drawings and calculation reports. 2010 Name of assignment or Project: GURARA Hydropower Plant Year: 2008 - 2010 Location: NIGERIA Client: FEDERAL MINISTRY OF WATER RESOURCES (Abuja - NIGERIA) Main Project Features: 3 vertical Kaplan turbines, installed capacity 3x30 MW Positions held: Design Engineer Activities performed: Supervision of the erection works and units partial commissioning tests 2008 Name of assignment or Project: NANGBETO hydropower plant project Year: 2008 Location: BENIN Client: Communauté Electrique du Bénin (CEB) Main Project Features: Rehabilitation of the generators voltage and speed regulators Positions held: Design Engineer Activities performed: Establishment of voltage and speed regulators technical specifications of the tender documents

### LAST REFERENCES – ASSET MANAGEMENT

2020 Name of assignment or Project: Director asset management Mali

Year: August 2020

Location: Mali

Client: EDM S.A.

Main Project Features:50 MWc photovoltaic power plant in Kita generating around 80 GWh/year into the Malian national Grid Positions held: Director of the power plant

Activities performed:

• Supervision, operation and maintenance of the power plant:

- Performances calculations and follow up
  - Supervision with the Scada system
  - Real time operation
  - o Daily, weekly, monthly and quarterly generation forecasting and reporting
- Diagnosis of equipment failures and planning of maintenance activities from level 1 to 5 (manufacturer level)

### • Management of:

- Technical O&M team,
- Health, Safety and Environmental aspects of the site
- Environmental and social compensation measures
- Safety and security of the staff
- Budget and finance control
- Subcontractors contracting and follow up
- Relationship with local authorities
- Human resources

# CERTIFICATION

I certify that to the best of my knowledge and belief, this CV correctly describes me, my qualifications, and my experience.