

Experimented Process Engineer

Freelance Process Engineer, immediately available for projects in an English-speaking environment.

DIDIER ASSOUA

Location: Lyon area

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Driving Licence: Category B

French nationality

English level: technical

+13 years of professional experience

Technical skills: process studies including heat and mass balances, process simulation (static and dynamic), equipment and instrumentation sizing, calculation notes and datasheets, creation and update of PFDs and P&IDs, functional analysis, process industrialization, production system reliability improvement, technical inquiries and cost estimations, preparation, supervision, and acceptance of works.

Software: HYSYS / ASPEN (including EDR, Dynamics & Safety Analysis modules), PRO II, Excel/VBA, FATHOM

Safety and Industrial Risk : N1, SST, HAZID/HAZOP (participation).

PROFESSIONAL EXPERIENCES / PROJECTS

September 2024 – July 2025 | Process Engineer – SYENSQO

Project: STELLAR – 50,000 t/year electrolyte production plant for electric vehicle batteries (Concept & Preliminary Design Phases)

- Creation, update, and review of project block and process flow diagrams (BFDs & PFDs) throughout the project lifecycle, including revision management.
- Process studies, including sizing and hydraulic calculations for pumps, heat exchangers, and storage tanks.
- Preparation of technical specifications and vendor inquiries for specific process equipment.
- Collaboration with R&D teams to scale up laboratory studies to industrial process applications.
- Design and preparation of analyzer layout plans for the industrial plant.
- Management of project waste and effluent treatment strategy, including partner identification and solution assessment.
- Standard Utility Consumption (CUS) calculations and development of global heat and mass balances using MoonViews.
- Participation in Yellow Reviews and assurance of process documentation compliance across disciplines.

March 2023 – August 2024 | Process Engineer – SOLVAY

Project: SOLAR PRODUCT – 10,000 t/year fluorinated compound production plant

- Creation, markup, and update of P&IDs, including revision tracking and Yellow Reviews.
- Preparation of maintenance access and isolation plans.
- Process studies including sizing calculations for pumps, pipelines, and heat exchangers, and equipment datasheets.
- Participation in HAZOP studies and complementary process analyses through dynamic simulations using HYSYS.
- Drafting of detailed process descriptions and operating notes.

August 2022 – March 2023 | Project Manager – BOCCARD

Project: COPERNICUS – Capacity increase of Beiersdorf's Nivea production site in Poznań, Poland

- Supplier consultations and clarifications (equipment and services).
- Markup and update of project P&IDs.
- Internal and client 3D model reviews.
- Organization and supervision of skid construction activities according to schedule and client specifications.
- Resolution of material delivery issues.
- Organization and execution of FATs (Factory Acceptance Tests).

April 2021 – June 2022 | Process Engineer – SEQENS

Project: POTENT UPP30 – Phases 2B & 3: Production capacity increase of Estetrol from 1.4 to 10 t/year

- Heat needs assessment for hot and cold utilities based on production Gantt schedule.
- Comparative CAPEX/OPEX studies and determination plan for future utility needs.
- Equipment calculation notes and technical data sheets (heat exchangers, pumps, PSVs).

- Preparation of technical specifications and supplier/service consultations, including HVAC package tender documentation.
- Functional analysis and safety matrix development.
- Markup and update of dismantling and project P&IDs.
- Participation in safety studies and reviews (HAZID, HAZOP).
- 3D model reviews considering operational and environmental constraints.
- Support to contractors during preparation and reactor modifications.
- Coordination of project activities and compliance with plant and project schedule.
- Supervision of junior process engineer.

January 2018 – July 2021 | Process Engineer – SOFRESID / SOFSID

SOFSID / SOFRESID – Lyon :

- Cost estimation and participation in the preparation of commercial and process offers for tenders.
- Update and debugging of process equipment and instrumentation calculation sheets.

ENERGO – “Process Book Blanc” Project : Methane production in plasma reactors using electrolytic hydrogen and carbon dioxide.

- Creation and update of PFDs, heat and mass balances.
- Redaction of equipment data sheets and vendor consultations for membrane separation package and heat exchangers (kettle, air condenser).

GRTgaz – TENORE Project : Energy recovery from natural gas expansion for electricity generation.

- Static and dynamic process simulation using HYSYS for the entire process.
- Update of PFDs, P&IDs, and UIDs.
- Verification of calculation notes and datasheets (valves, PSVs, pumps, pipelines) according to GRT standards.
- Supplier clarifications (heat exchangers, pumps, package units).
- Participation in HAZOP studies and follow-up of action plans.
- Redaction of operation, start-up, and shutdown notes.
- Coordination with specialists from other disciplines.

DAVEY BICKFORD – Feasibility Study for MNR, TNR, and DNB Production Workshop Upgrade

- Site survey to see, check and understand the workshop.
- Technical clarification meetings with the client.
- Preparation and update of PFDs and mass balances.
- Drafting of process reports and descriptive notes.

TOTAL – Medium pressure steam production Unit (15 t/h)

- Creation and update of PFDs and P&IDs (new and existing).
- Utilities, heat and mass balances.
- Process simulations using PRO II.
- Calculation notes and datasheets for equipment (pumps, lines, heat exchangers, degasser, valves, safety relief valves) according to TOTAL standards.
- Participation in P&ID and 3D model reviews.
- HAZOP participation and complementary studies.
- Preparation of alarm and safety matrix.

ARKEMA – ETOILE Project (Jarrie): Installation of two pressurized HCl production units.

- Utilities, waste, heat and mass balances.
- Creation and update of PFDs and P&IDs.
- Process simulation using ASPEN PLUS.
- Equipment calculation notes and datasheets (pumps, vessels) according to ARKEMA standards.
- Process description redaction.
- Suppliers offer reviews and technical clarifications.
- HAZOP participation and complementary process studies.

July 2015 – December 2017 | Industrial Production Consultant – INTERFORA (Technical Optimization)

- Unit operators training on industrial production unit start-up and operation.
- Preparation of intervention and safety procedures.
- Process standardization and reliability improvement.
- Use of process diagrams (TI/P&ID) for troubleshooting and performance optimization.
- Clients: CECA, SANOFI, BASF, ADISSEO, HERAKLES.

June 2014 – December 2014 | Project & Process Engineer – LGC/CIRIMAT/CNRS, Toulouse : Development of a reactive separation process.

- Preparation of equipment specifications and technical requirements.
- Project planning and testing of metallic foams.
- Execution of pilot-scale experiments and qualification tests.

April 2013 – September 2013 | Planning & Lean Engineer – GrDF (internship)

- Improvement of scheduling process for gas distribution network operations.
- Implementation of a Six Sigma DMAIC approach.
- Identification of inefficiencies and implementation of corrective actions.

February 2012 – July 2012 | Process Engineer – Catalytic Process Engineering Laboratory, CNRS/CPE (internship)

- Characterization of a three-phase catalytic reactor (gas/liquid/solid) of Robinson–Mahoney type for industrial scale-up.
- Bibliographic studies
- Experimental measurements and modeling of interphase mass transfer coefficients.

January 2011 – September 2011 | Process Engineer – NESTLÉ

- Heat and mass balance.
- Preparation of technical specifications for a new gas burner on the boiler.
- Process simulations using HYSYS and gas line sizing/datasheets.

October 2008 – April 2010 | Process Improvement Engineer – GESTOCl : Optimization project for bitumen unit energy consumption.

- Heat and mass balances of bitumen unit products and installation.
- Monitoring of product reception, storage, and shipment.
- Development of procedures for improved bitumen handling and delivery.
- Update of P&IDs.
- Supplier consultations and supervision of installation works.

EDUCATION

2012 – 2013 | Specialized Master's Degree in Industrial Engineering – INSA Lyon (France)

2011 – 2012 | Research Master's Degree in Process Engineering – Claude Bernard University Lyon 1 (France)

2003 – 2008 | Engineering Degree in Chemical Engineering, Petroleum Option – INPHB (Ivory Coast)