# MABROUKI Mohamed Ali

## Mechatronics Engineer – European Vehicle Homologation

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## PROFILE

Mechatronics engineer with 5 years' experience in the automotive industry, currently steering European Community Whole Vehicle Type Approval (RCE) for multi-brand Stellantis–Toyota N1 programs. Proven record spanning homologation, engineering leadership of braking and steering systems, chassis engineering and mechanical design for Renault and Stellantis platforms — from early concept phases through industrialization.

## CORE COMPETENCIES

- European type approval & regulatory compliance: RCE dossiers, FCM, “Demande W” provisional registrations, CNRV/UTAC authorities
- Engineering leadership: QCDP steering, validation planning, milestone management (RTC, NRL, RTGFE)
- Vehicle environment & architecture; full command of the Renault NPDM engineering toolset; CATIA V5/V6
- Analytical thinking, initiative-taking, leadership, autonomy and team spirit

## PROFESSIONAL EXPERIENCE

### SEGULA Technologies — October 2021 – Present

**European Type Approval Engineer (Stellantis–Toyota compact vans)** *July 2025 – Present*

- Compile and steer European Community Whole Vehicle Type Approval (RCE) dossiers for multi-brand N1 programs: Opel Combo, Peugeot Partner/Rifter, Citroën Berlingo and Toyota ProAce City.
- Guarantee full compliance of each homologation dossier with EU regulatory requirements ahead of submission to the French approval authority (CNRV).
- Conduct regulatory intelligence on evolving European automotive standards and directives, assessing their impact on vehicle conformity.
- Audit and update Fiche de Contrôle de Marquage (FCM) documentation governing approved markings across multiple models.
- Liaise with OEM engineering teams and approval bodies (UTAC, CNRV) to drive validation, audits and final approval sign-off.
- Administer homologation databases and prepare “Demande W” applications, securing provisional W-plate registrations that authorize road testing of pre-approval prototypes.

**Engineering Leader – Braking System — Renault Clio, Dacia Bigster & Dacia C-Neo (Euro 7)** *February – July 2025*

- Directed validation-plan execution for the CMFB braking function within the PFC lot, aligning delivery with strategic validation goals and parts availability.
- Devised component validation plans for critical braking elements (brake disc, Mastervac, ESP10, MKC2) and tracked System and Customer Performance validation across three concurrent vehicle programs.
- Safeguarded QCDP targets for the Braking function: RTC & NRL milestone verifications, RTGFE alignment with the master schedule, and OneTD/SIGNE conformity at the RL2 gate.
- Enabled critical decision-making by synthesizing technical input and fostering cross-stakeholder collaboration.

**PFE Support – Pilote Fonction Élémentaire (Elementary Function Pilot), Steering System — new Renault Clio** *July 2024 – January 2025*

- Orchestrated multi-disciplinary activities (engineering, procurement, suppliers, logistics, manufacturing) covering the development, validation and industrialization of steering components.
- Administered key project deliverables — OneVAL progress, RGPQP milestones and LUP items — securing QCDP attainment for the Steering function.

**Engineering Leader – Front & Rear Axles / Wheel Assembly, new Renault Master (TGA to MA phases)** *February 2023 – June 2024*

- Drove First Time Right (FTR) and On-Time Delivery (OTD) across a broad portfolio of technical deliverables: 2D/3D design dossiers, BOM/DEVO, IMDS, dimension chains, interface contracts, quality files (NRL, NDL, QDR, DDMRS-FMEA, RTC) and OneVAL validation plans.
- Oversaw development and validation of critical chassis components: hub bearings (Gen2/Gen3), steering knuckles, discs, splash guards, rear axles, wheel carrier plates and associated fasteners.
- Ensured product and process development conformed to industry standards, legal safety regulations and Renault Design System specifications, driving efficiency and quality optimizations.

- Provided technical expertise to cross-functional teams (design, logistics, quality), strengthening design robustness and proactive risk management.

**Mechanical Design Engineer – Smart Car — Citroën C3 & C3 Aircross** *October 2021 – October 2022*

- Performed shape-plan analyses and feasibility studies for exterior plastic parts, applying injection-molding design rules (minimum thickness, draft, part rigidity).
- Designed and integrated components in CATIA V5: tail-lamp bracket, rear bumper upper/lower skins, skid plate, tow hook, sensor and side brackets, and lateral reinforcements.

## EDUCATION

- National Engineer Diploma in Mechatronic Engineering — International Polytechnic School, Tunis (2019–2021)
- Engineering Cycle in Mechanical Engineering — National Engineering School of Tunis (2016–2019)
- Bachelor's Degree in Mechanical Engineering — Higher Institute of Technological Studies of Nabeul (2013–2016) — Top of class
- Graduation project: underground pipeline stress analysis (ASME B31.4/B31.8 codes, LC Peng theory), including development of a stress-calculation application interfacing with Caesar II.

## TRAINING

- PMP training (certification pending)
- Renault Engineering Leader internal training: deliverable maturity at project milestones, Quality Dashboard and PRM monitoring
- Internal plastic-equipment design training (RETEX BMC): equipment parts design, input-data analysis, fastening techniques

## TECHNICAL TOOLS

- Renault NPDM engineering toolset: NPDM/NPDMdoc, SIGNE, OneVAL, ePARM, eCLEM, ONETD, MATSUB, eNDL, OneVIEW, TOTEM, ANPQP (RGPQP), BOMC, LUP, GAR, Selfweb, PLM, DocInfo
- CAD: CATIA V5/V6, SolidWorks, AutoCAD — MS Office suite

## LANGUAGES

Arabic (native) • French (fluent) • English (fluent) • German (beginner)