

- ABDERRAHMANE HAMMAR
- French citizenship
- Date and place of birth: 11/02/1973 Algeria
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**Team and Project Manager: Autonomous vehicles, Electrification & Hybridization, EV, HEV, Energy Storage System**

PhD Electrical Engineering (UCBLyon1 France)

Executive-MBA CNAM Paris France (June 2016)

Electromechanical Engineer (Algeria)

## Skills

- **Project and team Management** (Team of 4 to 15 Engineers,)
- **ADAS for shuttles and industrial vehicles and for urban applications**
- **Electrical Energy Storage Systems** (Batteries Li-based, Supercaps, Li-Cap...)
  - Electrical and thermal characterization of electrical energy storage components
  - Electrical and thermal modeling of electrical energy storage components
  - Definition of measurement protocols for the accelerated aging of electrical energy components
  - Performing accelerated aging tests
  - Reliability study of electrical energy storage components
  - Study of associations of electrical energy storage components for power applications
- **Hybrid and electric vehicles**
  - Hybrid and electrified agriculture machines
  - Light electrical vehicles
  - Electrical and hybrid trucks and busses
- **Power electronic and control, Electrical driving**
  - Electrical energy management (couple batteries / supercapacitors, thermal source) for hybrid and electric vehicles
  - Power electronics converters for transport applications
  - Materialization of controls with microprocessors or DSPs
  - MBD and Rapid prototyping under dSpace/Matlab/Simulink (real time system)
  - Study and dimensioning of the driver for IGBT for space applications
  - Study and control of electric drives (brushless motor, DC, asynchronous...).
  - Study of power electronics converter controls (DC/DC, DC/AC, etc.)
  - Studies of automatisms and automatic systems (servo-control, regulation, etc.)
- **Simulations**
  - Simulations Matlab/ Simulink, Advisor, FemLab. Flux 2D...
  - Programmation C, API

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Ouvrage : *Stockage d'Énergie Électrique et Perspectives de l'Électrification*, Pour acheter <https://lnkd.in/eniXYefZ>

## Education and Diplômes

- **October 2014- June 2016 E-MBA: CNAM: Management of Business Unit**
- **2002- 2006: PhD Electrical Engineering**, Project: Storage and management of electrical energy by supercapacitors: characterization, reliability, and interface for a hybrid rail transport system', "Innovation and Research Department of SNCF Paris in partnership with Inrets Arcueil and Ampère: Former CEGELY (UCBL, ECL, INSA) Lyon
- **2001-2002: Master Electrical Engineering** « University Claude Bernard Lyon 1 » Laboratory Ampère ex CEGELY (UCBL, ECL, INSA) Lyon
- **1998-2001: Electrical control , Magister**, Project: "The electric vehicle: optimal on-board energy and drive" "University of Sciences and Technology Mohamed BOUDIAF" Oran – Algeria
- **1991-1996: Electromechanical Engineer** - Algeria (mention: Bien) "National Institute of Building Materials BOUMERDES ALGERIA"

## Languages

- English: Good to Fluent
- French: bilingual
- Arabic: bilingual

## Professional experiences

- **05/2023 to 02/2024 Forsee Power**
  - Technical leader projet SBMC (Swappable Batteries Motorcycle Consortium)
    - *Definition of the SBMC product and its limits*
    - *Technical solutions to fulfill product defined*
    - *Responsible of pack of batterie (prototypes)*
- **06/2022 to 12/2022 (Alten/Renault)**
  - Team organization and skills development
  - Process for electronic component building including validation plan based on scenarios.
  - Technical responsible / battery/BMS Hybrid vehicule Renault
- **06/2020 to 12/2021 Autonomous vehicles Roadmap deployment; NAVYA France**
  - Company Organization shifting from Full matrix to Hybrid organization
  - Strategy definition for ADS; roadmap market oriented (Minimum Viable Product):
  - Vehicles and applications targeting (shuttles, industrials...
  - ADS roadmap translation through specified ODD and defined Scenarios and situations
  - Translation of the ODD by so called situations versus fallback (ODD exit & ADS failure)
  - Translation of the strategy "MVP" to technical languages for development
  - Initiation to modified development process influenced by new safety requested capabilities and scenarios Taxonomy culture
- **06/07/2020 à 03/2021: Projects manager Autonomous System Navya**

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- Contribution to the RoadMap and its dissemination in the process
- Support for organizational change
- Project monitoring
- Technical contribution in the consolidation of the technical roadmap
- **01/02/2020 to June 2020 finalization & book publication**

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*I propose in this book to devote several chapters to the electrical energy storage system and to the various elements and functions essential to its operation. The common thread of this work is based on the concept of homogeneous electrode and non-homogeneous electrode. From these concepts, we introduce the notion of component and the notion of electrical energy storage system. In Indeed, the different types of batteries, in particular the lithium battery and the supercapacitors as well than hybrid components, implement homogeneous & no-homogeneous electrodes*

- **04/19 to 12/2019 Cross-functional technical manager; Forsee Power manufacturer of battery systems**
  - Battery systems for marine applications
  - Battery systems for railway applications: Validation plan
  - Contribution to market demands
  - 48V product strategy
- **03/2018 to 31/12/2018: light electric vehicle team leader (PowerTrain+ Energy storage, Vehicle control); Altran for PSA projects (AMI project)**
  - Technical specifications of the various functions of the GFE perimeter
  - Responsible for the QCDP of the perimeter (Design to cost, Supplier Recommendation)
  - Management of the Functional Group team
  - Definition of the operations strategy in particular for the (validation plan)
  - Development of the software according to the 'Model Based Development' method
- **02/17 to 03/2018: Stationary applications project manager at Blue Solution Bolloré (Solution > 1 MWh@2MW) Quimper/France**
  - Project management of the Distributed Energy Resource (DER)
  - Definition of general and technical specifications for the electrical energy storage system, the Blue-solution LMP battery being the basic element
  - Definition of electrical architectures for the overall system
  - Follow-up of the set-up of the power interfaces by the different partners
  - Definition of the Communication and control architecture of the energy storage system and the power interface.
- **08/2011 to 11/2016: CLAAS TRACTOR Innovation Project Manager**
  - Hybridization and electrification of agricultural tractors
  - Definition of a hybridization and electrification strategy for tractors
  - Implementation of a hybrid demonstrator with external partners to the company
  - Management of the Hybridization and electrification of agricultural tractors project team
- **10/2010 to 07/2011: Thales power electronics designer: space applications, Thales Charleroi/Belgium**
  - Study and dimensioning of driver for Inverters based on IGBT for ARIANE5 applications
  - Solution proposal based on the dSPACE tool for space applications
  - Contributions to the response to market demands

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- **2006 to 09/2010: Technical project manager at PVI France "production of industrial vehicles"**

- Set up of Energy storage system based on the association of batteries and supercapacitors for heavy vehicles and electric buses
- Energy management in energy storage systems for buses.
- Development of DC / DC converters and validation
- Development of chargers for high energy density batteries
- Control development for electric motors
- Study of a hybrid architecture (thermal + electrical)

- **2003- June 2006: Researcher SNCF/France**

- Study of on-board energy in autonomous transport systems at the "SNCF research department: 45 rue de Londres Paris" in collaboration with "INRETS (Arcueil), Laboratory of new technologies"

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- **ANNEX: 1994- 2001: Experiences in Algeria**

- 1998- 2001: Internship in the electric drive laboratory as part of the Magister's thesis entitled: 'The electric vehicle: optimal on-board energy and drive'. "USTO Oran Algeria"
- 1997-1998: Small family business Computer systems and maintenance (3 people), Management of a small jewelry store in partnership with a friend, "26 rue si Youcef Mahdia-Tiaret"
- 1996: End-of-study internship 'Engineer': Improvement of the reliability of the handling of a brickyard, by replacing its wired control logic with a programmed logic 'Siemens industrial programmable controller'. "Brickworks of Colonel Amirouche Boudouaou Algeria"
- 1995: Intermediate internship project "Rouiba Algeria"
- 1994: Worker Internship: "Floris Plasterer Oran-Algeria"
- Automatic project: speed regulation of the direct current electric motor "INMC Boumerdes"
- Mechanical machine elements project: sizing of a two-stage speed reducer. "INMC Boumerdes-Algeria"
- Instrumentation project: "Usto Oran-Algeria" speed sensor study