

Steve Hammond, BEng (Hons)

Mechanical Product Development Engineer



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PROFILE

I help teams turn difficult hardware ideas into products that can be built, tested and supported. I have more than 20 years of experience across EVs, autonomous vehicles, aerospace, rotary engines, manufacturing automation and medical products.

I am most useful when a design is incomplete, the interfaces are messy and someone needs to connect CAD, analysis, suppliers, testing and production. My work covers mechanical and electromechanical design, thermal systems, DFM, FEA/CFD, drawings, BOMs and engineering change control.

CORE EXPERTISE

- **Product development:** concept, prototypes, testing, reviews and production release
- **Mechanical design:** assemblies, thermal systems, structures, packaging and sealing
- **Manufacturing:** machining, sheet metal, tubes, welding, moulding, composites and additive
- **Analysis:** FEA, CFD, tolerance work, hand calculations and optimisation
- **Engineering control:** BS 8888, ISO GPS, GD&T, PDM, BOMs and change control
- **Tools:** NX, SolidWorks, Solid Edge, Inventor, Onshape, Ansys, MATLAB and Mathcad

EXPERIENCE

Mercor | Independent Engineering Expert

August 2025 to present | Remote, UK

- Provide industrial design and mechanical engineering expertise to help evaluate and improve models for a leading AI lab.

Peec Mobility | Thermal Systems Architect and Advisor

March 2025 to July 2025 | Dubai, UAE / Remote

- Developed battery cooling architecture for an EV platform designed for Dubai temperatures and UNECE Regulation 100 requirements.
- Turned an early thermal concept into a lightweight, manufacturable architecture covering pack layout, structure, sealing and service access.
- Worked with suppliers to align the design with manufacturing and regulatory test needs.

Charge Cars | Principal Thermal Systems Engineer

July 2021 to May 2024 | London, UK / Remote

- Turned prototype cooling and air-conditioning systems into production-ready designs for a planned run of 499 electric vehicles.
- Designed tightly packaged manifolds, sheet-metal parts, hoses and CNC-bent tubes using SolidWorks, Siemens NX and Ansys.
- Developed lightweight riveted and bonded aluminium battery trays, supported by FEA and physical testing.
- Produced controlled BS 8888 drawings and bonding-process definitions, working across suppliers, testing, JIRA and Upchain PDM.

AIE | Senior Mechanical Design Engineer, project contract

June 2023 to January 2024 | Remote

- Developed the air-cooled 225CS SPARCS rotary engine concept to Preliminary Design Review readiness.

ActiveCell Technologies | Co-founder and CTO

2018 to 2021 | Leeds, UK

- Designed and commissioned a 22-machine 3D print farm with environmental control, remote monitoring and automated job management.
- Led a web-based quoting and production system linking customer orders to scheduling, material selection and inspection.
- Scaled pandemic production to more than 15,000 face-shield frames in one month, then moved the product to injection moulding.
- Developed an Innovate UK-funded custom-fit mask system. The PPE product achieved CE certification for medical use.

Arrival / Roborace | Mechanical Design, BOM and Project Engineering

2016 to 2018 | Oxford, UK / Remote

- Helped deliver DevBot in four months by integrating batteries, drivetrain, high-voltage wiring, sensors and computing hardware into a Ginetta LMP3 platform.
- Worked with Ginetta on chassis, suspension and driveline changes, then supported Robocar aerodynamic and wind-tunnel models.
- Managed full-vehicle CAD integration across outsourced teams, finding clashes, routing issues and assembly risks before build.
- Built a SQL-based web PDM system for CAD approvals, version control and BOM management across remote teams.

EARLIER ENGINEERING WORK

- **British American Tobacco, 2018:** Developed precision production machinery for an automated assembly process. A three-week proof of concept became a six-month delivery programme.
- **AIE, 2012 to 2016:** Led a production-ready rotary engine in under 12 months, packaged a 650CS engine into a Westfield chassis and designed a 30 kW rotary range extender.
- **O&H Vehicle Technology, 2014 to 2015:** Secured £150,000 of grant funding and led the concept for a lightweight ambulance prototype.
- **David Brown Gear Systems, 2015:** Analysed a V-22 Osprey drivetrain test-rig gearbox using Ansys FEA and custom VBA tools.
- **Ultra Electronics PMES, 2011 to 2012:** Optimised electric-motor cooling and structure through repeated CFD, FEA and CAD development.
- **Cubewano, 2009 to 2011:** Led development of rotary UAV engines and implemented SolidWorks PDM.
- **Cetix, 2008 to 2009:** Delivered a 13-tonne active-heave-compensated ROV winch to DNV requirements. Repeat orders followed for two 19-tonne derivatives.

- **Meggitt and UAV Engines, 2004 to 2008:** Designed and analysed aerospace valve and rotary-engine hardware through PDR and CDR.
- **KC Mobility and TVR, 1999 to 2004:** Designed vehicle conversion, wheelchair lift, chassis and suspension components.

SELECTED PROJECTS

- **Project Florence (ActiveCell):** Developed a phone-based face-scanning app and digital fitting workflow for an Innovate UK-funded custom-fit mask, connected to on-demand manufacture. The PPE product achieved CE certification for medical use.
- **Automated PPE manufacturing system (ActiveCell):** Designed a 22-machine 3D print farm and web-based quoting, scheduling and job-management software. Production scaled to more than 15,000 face-shield frames in one month before injection moulding.
- **Charge Cars PDM workflows:** Developed Upchain PDM and JIRA workflows for CAD approvals, controlled drawing release, version control and engineering changes on a low-volume EV programme.
- **Roborace DevBot:** Integrated batteries, drivetrain, high-voltage wiring, sensors and computing into a Ginetta LMP3 platform, while building a SQL-based web PDM system. The vehicle reached track testing in four months.

EDUCATION

BEng (Hons), Integrated Engineering with Automotive Studies

Sheffield Hallam University, 2001

REFERENCES

Excellent references available on request.