

CYRILLE LECROQ

INTERVENTION CTO

Complex Systems · Blocked Products · Hard Constraints

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01 — POSITIONING

Steps in when a product is stuck, when a prototype cannot become a product, when an architecture has hit its limits, or when a technological deadlock must be broken under tight constraints. Twenty years at the intersection of mechanics, electronics, software, signal processing and regulatory compliance — Oil & Gas, defence, industry, MedTech. The value is not in accumulating domains: it is in understanding their interactions, identifying the real bottleneck in a complex system and building a solution with the resources actually available.

02 — IMPACT

- **×10 on industrial inspection productivity**
Augmented reality solution deployed on ~3,000 assets — 20 to 30 inspections/day versus 2 to 4 with the previous method.
- **Acoustic filtering without electronic components — biomimetic cochlear architecture**
Industrialised through to series production.
- **Authentication via physical fingerprint of the environment — zero stored secret**
Keypulse · Patented architecture · Cybersecurity · keypulse.tech
- **Design → industrialisation → series production**
Full product cycle from design through to series production.

03 — PROFESSIONAL EXPERIENCE

Chief Executive Officer & Chief Technology Officer

IBF Médicale · MedTech · January 2023 — Present
Connected medical device startup.

Technical and general management. Hardware and software architectures (ESP32, BLE, WebSocket). Biomedical signal processing algorithms. Intellectual property: 3 patent applications filed (MedTech × 2, Keypulse / cybersecurity × 1), co-inventor. Regulatory compliance: MDR (assessment ongoing), HDS (audit ongoing), CRA. Strategy, partnerships, finance.

President & Chief Technology Officer

WeMed · Founded · MedTech · Jan. 2020 — Jan. 2023
Founded alongside the end of the Atos assignment.

Complete telemedicine device: embedded hardware, firmware, Android, WebRTC. Multidisciplinary team of 9 (5 dev., 3 mech., 1 electronics engineer) and 3 subcontractors managed. SKOP: auscultation head 100% 3D-printed — biomimetic cochlear architecture, mechanical filtering without electronic components, industrialised through to series production. MDR-compliant QMS.

R&D Project Manager

Atos · Defence — Restricted Distribution · Jan. 2018 — Jul. 2020

R&D management in a classified environment. Multidisciplinary coordination of 15 people (5 teams: supply, mechanical, electronics, R&D, development). Qualifications: Reach, RoHS, EMC, Radio, SAR, IP/IK. Subcontractor management and recruitment.

Mechatronics Developer

Laboratoires Protec · Industry · Jan. 2016 — Jan. 2018

Specifications, embedded development (ESP12, C), prototyping, testing. Operator interfaces (WinDev). Subcontractor management, production.

Software Developer & R&D Team Lead

Data Concept · Software · Jan. 2014 — Jan. 2016

Geolocation applications, OCR engine (C++, OpenCV, Tesseract), industrial augmented reality solution. Direct management of 5 developers.

Founder & Chief Executive Officer

EFITAS · Technical Services — 10 employees · Jan. 2010 — Jan. 2014

Founded and led. Proprietary isometric geolocation + Android augmented reality solution, deployed on ~3,000 assets (refinery): ×10 productivity on valve inspection.

Project Engineer

SAIPEM / Foster Wheeler / Jacobs · Oil & Gas · Jan. 2007 — Jan. 2014

International multidisciplinary projects. Planning, QAQC, engineering / construction / client interface. Primavera P3/P6, MS-Project.

Material Manager

Inspectas · Industry · Jan. 2005 — Jan. 2007

Management of 17 storemen. Expediting, supplier quality control.

04 — AREAS OF EXPERTISE

EMBEDDED SYSTEMS & ELECTRONICS

ESP32 · ESP8266 · Arduino · ARM · C · C++ · RTOS

CONNECTIVITY & IoT

BLE · Wi-Fi · LoRa · SigFox · Zigbee · WebSocket · SSL

SOFTWARE & MOBILE

Android (Kotlin, Java) · Python · WebRTC · Delphi · WinDev

SIGNAL & COMPUTER VISION

Biomedical signal processing · OpenCV · Tesseract · ML Kit

MECHANICS & ADDITIVE MANUFACTURING

Mechanical design · Materials physics · Plastics · FDM · SLA

PRODUCT & INDUSTRIALISATION

Product development · Industrialisation · Series production · Lean · QA/QC

REGULATED ENVIRONMENTS

MDR · HDS · CRA · Reach · RoHS · EMC · Radio · SAR · IP/IK · QMS

LEADERSHIP & MANAGEMENT

CTO · Technical management · R&D management · Entrepreneurship · Product strategy

05 — APPLIED AI & MACHINE LEARNING

- Model fine-tuning for domain tasks — sportech, first aid, regulatory.
- Local & sovereign AI — on-premise integration, no cloud dependency.
- Signal learning (TensorFlow) — classification of pathological sounds in auscultation (StétoClear, IBF).
- Real-time biomechanical analysis — AI design in sportech (BiokinetiQ).
- End-to-end RAG assistants & MCP servers: Ask & Get (ytechnology.eu), investor data room (Keypulse), ATLAS (Y copilot).
- Approach: AI when it solves the problem, not when it decorates.

06 — RESEARCH, INNOVATION & INTELLECTUAL PROPERTY

Intellectual Property

Inventor / co-inventor — MedTech · Cybersecurity · Biomechanics · Machine Learning

8 inventions / patent applications, including 5 as sole inventor.

Public references: WO2025247569 · FR3162614 · FR2600564

FR2610638 · FR2608814 · FR2608813 · FR2606198 · FR2606196 (INPI / WIPO)

Independent Research — Theoretical Physics & Cosmology

TCV-φ I-VIII — Series of 8 preprints (non peer-reviewed) · Zenodo

DOI: 10.5281/zenodo.19234640 and following

The approach — understanding fundamentals to transfer methods to applied problems — is at the core of the intervention methodology.

07 — CONTINUING EDUCATION & CERTIFICATIONS

Additive Manufacturing & 3D Design — Certification

F3DF · Lyon · 2017

Design for additive manufacturing · Autodesk Fusion 360

Embedded Systems & IoT — Certification

University of Toulouse

Astrophysics & Physics — Certified MOOCs

OBSPM · EPFL · ENSTA ParisTech

08 — LANGUAGES

French Native language