

GUGLIELMO GUARNERA

Research & Development Manager | Systems Architect | Workflow Automation & Production Intelligence

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EXECUTIVE PROFILE

Research & Development Manager, Systems Architect and Workflow Automation Specialist with 25+ years of experience designing, integrating and operating complex systems across media technology, broadcast engineering, virtual production and AI-driven operational environments. Career path connects early data-analysis and automation work, full-cycle audiovisual production, broadcast R&D, LED volume and real-time media infrastructures, and current development of AI-native workflow systems through KRD.

CORE KEYWORDS

R&D Management, Systems Architecture, Workflow Automation, Operational AI, Local-first Systems, Document Intelligence, Computer Vision Automation, Legacy System Integration, Human-in-the-loop Systems, Provenance, Context Packaging, Broadcast Engineering, Media Servers, Virtual Production, LED Volume, Unreal Engine, Pixera, TouchDesigner, Production Pipeline Design, Team Leadership.

CAREER HIGHLIGHTS

- Created and managed an internal R&D department at AMG International for broadcast systems, media servers, automation, workflow and real-time infrastructures.
- Designed graphics rooms, playout systems, studio workflows, scenic light/video management and automation layers for major television productions.
- Worked across X Factor, Italia's Got Talent, Amici, RAI, LA7, Fremantle, institutional events and large-scale broadcast/live environments.
- Senior Volume TD / technical lead on international virtual production projects, including 104 consecutive production days on Those About To Die.
- Developed KRD systems for operational AI, local-first workflow automation, document intelligence, computer-vision automation, provenance and legacy-system orchestration.

PROFESSIONAL EXPERIENCE

KRD - Research & Development Manager / Systems Architect | 2021 - Present | Rome / Hybrid

Founder of KRD, independent professional and R&D vehicle for media pipelines, AI automation, production intelligence and complex workflow orchestration.

- Architecture of AI-native workflow systems combining structured extraction, deterministic controls, operator review and human-in-the-loop decision flows.
- Design of automation layers for legacy software environments without public APIs, including computer-vision driven interaction, structured data capture and guided operator workflows.
- Development of production-intelligence systems for media ingestion, narrative analysis, operational coordination, project memory and context packaging for efficient LLM interaction.
- Creation of user-owned and operator-owned data infrastructures where storage, provenance, access and operational context remain under the user/operator control.
- Design of artist-first and user-first systems able to work in the background, reconstructing fragmented work from heterogeneous sources while preserving provenance and source relationships.
- Local-first implementation approach for fast operational tools, minimizing latency and keeping sensitive workflow context close to the operator where possible.

Representative KRD systems

- MailAgent: Local-first, case-centric orchestration system for evidence ingestion, status handling, mail proposal logic, operator review and structured communication, designed for fast daily use.
- VisionAgent: Automation and structured data extraction layer for legacy software environments without APIs; screen understanding, selector diagnostics and guided operator workflows.
- ScriptLab: Script-to-production intelligence system connecting narrative material, ingestion, contextual planning, previs generation and production workflow orchestration.
- AIArtisan / AiA: Media and post-production pipeline system for ingestion, search, contextual asset organization and workflow orchestration, with artist-first project memory and context packaging.
- KURA: Personal medical archive and user-owned health-data infrastructure for heterogeneous medical and administrative inputs: reports, documents, images, photographed handwritten notes, recipes, invoices, receipts, prescriptions and related clinical records. The system recognizes, classifies, extracts and orders them into structured longitudinal data, provenance-aware context and a private AI-prioritized dashboard.
- Glimpser: AI-native visual intelligence and monitoring infrastructure with its own pipeline for contextual observation, media analysis, adaptive monitoring and operational environment understanding, designed to organize signals into coherent context while preserving source relationships and provenance.
- Famousify: Generative commerce and identity-transformation platform focused on style-consistent media generation, asset pipelines and personalized content production.
- AKASHA: Longitudinal analysis platform focused on memory, language and decision patterns through consensual data, verifiable sources and interpretable models.
- Pixera VPT Operator: Operator-side control and documentation concept for Pixera virtual production workflows, show-state logic, DIT/continuity views, context handoff and external control surfaces.

Luno Studios - Virtual Production Technical Lead / Senior Volume TD | 2023 - Present | Rome / On-site

- Senior Volume TD on *Those About To Die*, directed by Roland Emmerich: large-scale LED volume production at Cinecitta with 104 consecutive production days and coordination with international teams including DNEG and Dimension Studio.
- Operational responsibility across LED volume workflows, Unreal-based production pipelines, camera tracking integration, media-server operation and real-time content stability.
- On-set R&D with engineering teams on tracking systems and non-standard production constraints, including automotive reflection continuity and AI-assisted synthetic media support.
- Selected credits include *Those About To Die*, *The Old Guard 2*, *Lubo*, *White Mars*, *Brunello*, *Motorvalley* and *Milano-Cortina 2026 / Poste Italiane*.

Dimension Studio - Volume Supervisor | 2024 | Rome / On-site

Volume Supervisor on Unreal-based virtual production workflow, supporting technical continuity, LED volume operations and cross-team coordination.

AMG International - Head of R&D / Workflow Manager | 2017 - 2022

- Created and managed an internal R&D function for broadcast, studio and event technologies, with responsibility for system design, implementation, team coordination, operational workflows and technical delivery.
- Designed and implemented broadcast graphics rooms, media-server infrastructures, studio playout systems and automation workflows.
- Integrated real-time 2D/3D applications, Unreal Engine environments, tracking, mapping, IP video transmission and interaction design into production systems.

- Major systems: X Factor 11-15; Italia's Got Talent 2017-2022; Amici 2018-2022; Enjoy / Mediaset; LA7 - Sono le 20; RAI / Zecchino d'Oro / Alla Lavagna; Game of Talent / Fremantle; Unreal virtual events for Ploom / Japan Tobacco, EHEA / European Community, ENEL and Philip Morris Italia.
- Additional environments: RAI programme presentations; Opera House Attila video system; Poste Italiane Sindaci d'Italia; Gazzetta dello Sport Awards; Unicredit; Intesa Sanpaolo; Toyota; Altaroma; Circo Massimo New Year event; Festival delle Letterature; Rockin'1000 / World Investment Bank; Maluma concert; Mercedes interactive installations.

Cliche - Producer / Post Producer / Colourist / Editor / R&D | 2011 - Present | Rome

Production and post-production activities across corporate, institutional, cultural and audiovisual projects. Responsibilities include editing, colour grading, workflow supervision, project coordination and technical consulting.

SAFADO Film - Founding Partner | 2012 - Present | Rome

Documentary production and cultural initiatives, including social and historical documentary projects and festival activities.

Canecane - Founder / Owner / President | 2001 - 2011 | Rome

Founded and developed a multidisciplinary audiovisual collective and later structured company active in interactive installations, live visual systems, VFX, animation, compositing, visual production, technical pipeline design and team management. During the direct involvement period, Canecane evolved beyond experimental live visuals into professional VFX and animation work for mainstream Italian theatrical cinema, including broad-audience comedy/comic productions, genre films, international productions and television work.

2K Produzioni - Co-Founder | 1999 - 2005 | Rome

Full-cycle audiovisual production company: directing, production, editing, compositing, post-production, authoring and delivery for music videos, television content, documentaries, commercials and cultural projects.

Studio Market Selector - Consultant | 1990s - 2006 | Italy / International contexts

Automated statistical data collection, road-traffic surveys, urban traffic analysis, data loading and reporting, workflow automation, personnel management, training and supervision, including projects connected to European Community and international institutional frameworks.

SELECTED SYSTEMS DESIGNED AND DEPLOYED

- Broadcast graphics rooms, superimposed broadcast systems, media-server infrastructures and studio playout automation.
- LED volume and virtual production workflows integrating Unreal Engine, camera tracking, Pixera/media servers and on-set operational procedures.
- AI-driven case orchestration, document intelligence and legacy software automation systems through KRD, with emphasis on local speed and operator review.
- Multi-source intelligence systems, including KURA health-data workflows and Glimpser visual pipelines, able to classify and order text documents, images, photographed handwritten material, invoices, receipts, prescriptions, clinical records and operational signals into provenance-aware context.
- Context-package and project-memory layers designed to let local or constrained LLM workflows operate faster and with less repeated background reconstruction.
- Developer/provenance tooling reconstructing operational work sessions from repository history and semantic commit search.

CERTIFICATIONS AND TRAINING

MegaPixelVR Helios Specialist; ROE LED Specialist; BlackTrax training; Advanced Notch operator training participation.

LANGUAGES

Italian: Native. English: Professional working proficiency.