



FFPLUS SUCCESS STORY: BUSINESS EXPERIMENTS

GENERATIVE AI FOR ADDITIVE MANUFACTURING

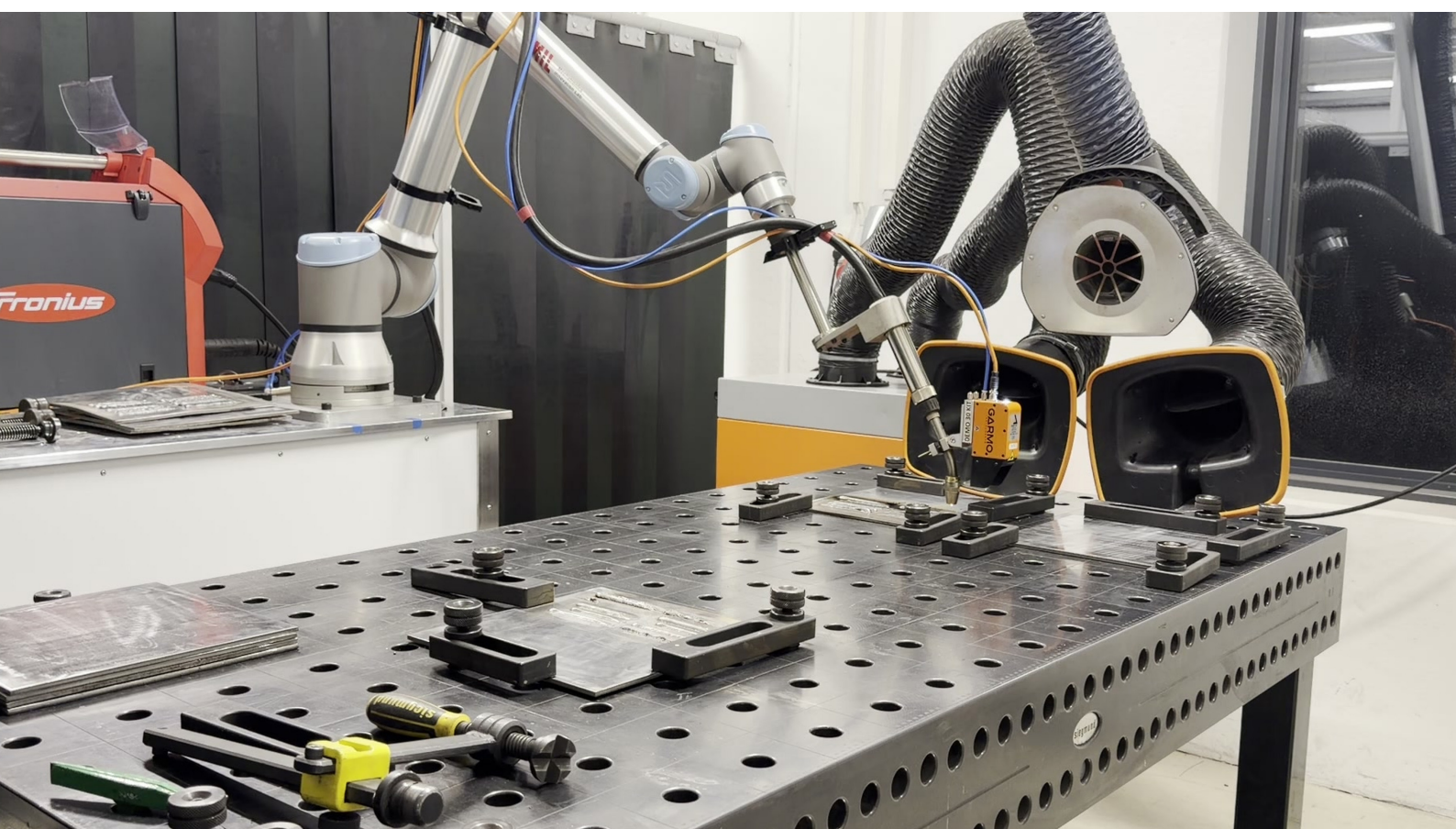
ORGANISATIONS

BitBang is an Italian SME specialising in data, analytics and AI, helping manufacturers turn complex operational data into actionable insights. They have partnered with technology expert **BI-REX** - a public-private consortium focused on Big Data, advanced manufacturing, technology transfer and industrial digital innovation. It is one of Italy's eight competence centers supporting industrial innovation.



THE CHALLENGE

Additive manufacturing runs can last hours or days, especially for complex parts made from materials such as titanium. A last-minute failure in production wastes material, energy and machine time. Industrial printers generate instrument data, but many SMEs lack the AI expertise and computing power to train reliable multimodal models. BitBang's cloud stack made experimentation possible but too slow and costly, so HPC was essential to accelerate the solution.



Technology used: HPC, AI
Industry Sector: Manufacturing

THE SOLUTION

BitBang developed a SaaS platform that connects live printer sensor data and layer images to AI models, returning real-time failure forecasts so operators can intervene. Its pipeline combines pre-trained Chronos time-series models with GAN-based image analysis. EuroHPC's Leonardo system provided about 14,000 GPU hours to train, fine-tune and compare models on large heterogeneous datasets, delivering the speed, scale and model quality needed for a robust deployable service.

THE IMPACT

The experiment enables BitBang to move from project-based analytics towards a repeatable industrial SaaS product, with recurring revenue from annual subscriptions, pay-per-model access and specialist services. Indicative pricing of approximately €10,000 per customer each year (plus up to €40,000 for configuration, model adaptation and support) creates a scalable route to market and strengthens BitBang's position as an HPC-enabled AI provider for manufacturing SMEs.

For additive manufacturers, earlier warning that a build is likely to fail can reduce failed prints and high-value material waste by 20-30%, protecting titanium and other costly inputs. Predicting failure before completion can also save several days of machine time on complex prints, reduce rework and energy use, improve production scheduling and machine-capacity planning, and support new joint offerings with 3D-printer vendors. It also makes advanced predictive models accessible without costly in-house AI infrastructure.

BENEFITS

- 14,000 GPU hours enabled scalable multimodal model training and fine-tuning.
- €10,000 annual SaaS subscription revenue expected per customer.
- Up to €40,000 per customer from model adaptation and specialist services.
- 20-30% fewer failed prints and less high-value material waste.
- Several days of machine time saved by predicting failures before completion.



Funded by
the European Union



EuroHPC
Joint Undertaking