

# TechWorld 2025: Big Data, Computer Science and Information Technologies

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## A Deep Dive into Real-Time Data Streaming and Scalable Architectures

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### The Power of Real-Time Data Streaming in Modern Architectures

In today's hyperconnected world, businesses demand instant insights to drive decisions, optimize operations, and enhance customer experiences. Real-time data streaming has emerged as the backbone of this transformation, enabling organizations to process and analyze data as it happens—eliminating latency and unlocking unprecedented agility.

This session dives deep into the tools, patterns, and challenges of building scalable real-time systems. We'll explore:

- Why batch processing is no longer enough in an era of IoT, financial trading, and personalized user interactions
- Architecting with Apache Kafka & Flink to handle millions of events/sec with fault tolerance
- Proven use cases from pricing engines to fraud detection, where streaming delivers 3–10x performance gains
- Avoiding the pitfalls of state management, out-of-order events, and resource bottlenecks

Attendees will leave with actionable strategies to modernize legacy pipelines, reduce cloud costs, and harness streaming data as a competitive weapon. Whether you're building event-driven microservices or AI-powered analytics, this talk will reshape how you think about data in motion.

(Ideal for: Architects, Data Engineers, and Tech Leaders ready to future-proof their systems.)

### Key Highlights:

- Cutting-Edge Focus: Beyond basics—covers modern challenges like stream-table duality and serverless streaming
- Battle-Tested Examples: Draws from real-world implementations in finance, e-commerce, and cloud platforms
- Vendor-Neutral Insights: Principles apply across Kafka, Pulsar, AWS Kinesis, and other platforms