

Revolutionizing Lottery with **Science**

An inside look at the tools that power profits

The most successful companies in the world rely on scientific tools to drive intelligent business decisions. In the unique lottery sector, Scientific Games arrived on the scene 50+ years ago with a science-based tool—technology developed by its founders (an engineer and a mathematician)—that produced the world’s first secure instant game. And for the first time, no one would ever know if a ticket was a winner until they scratched.

Since then, the company pioneered digital lottery and its experts across dozens of sciences haven’t stopped developing new tools and solutions that help power profits for lottery good cause programs. The tools have been refined and, in some instances, replaced over the decades. All innovated with one goal in mind. Giving lotteries a science-based foundation to continually adapt, protect and grow their business.

Instant Game Development



Producing an instant game is an absolutely amazing process. From the original concept for the game to the artwork and final shipping, multiple sophisticated and custom-built tools are in use every minute of every day ensuring that each and every game is secure and accurate.

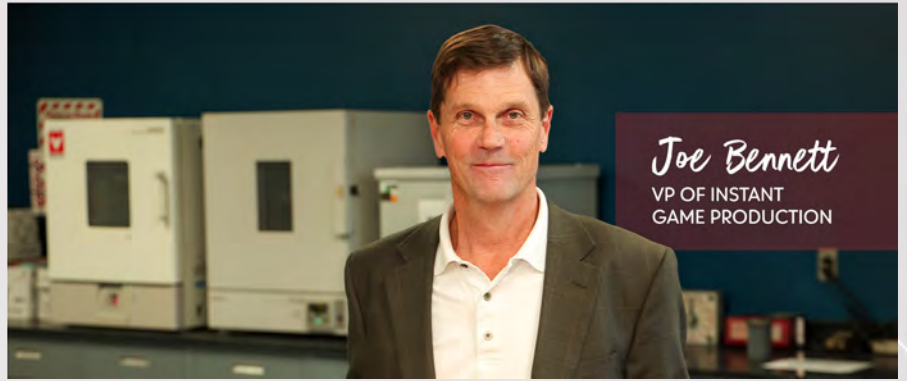
Each instant game begins to come together in Scientific Games’ *Composer* system, which

lays out every detail needed to produce the game. *Composer* automatically feeds relevant game specifications into the company’s critical production systems, including the *GamePlan* production control system.

GamePlan schedules and manages the hundreds of individual steps needed to produce a game starting with game programming, pre-press and moving through

all printing, packaging, prize balancing and shipping operations. *Composer* and *GamePlan* are custom-built applications that form the foundation of Scientific Games’ internal communications processes, ensuring accuracy, security and products that lotteries can trust.

Game Security



Joe Bennett
VP OF INSTANT
GAME PRODUCTION

If *Composer* and *GamePlan* are the eyes and ears of the game development process, the beating heart of instant products comes from the game data imaged under the scratch-off coatings. The game data is created within Scientific Games' secure production environment which ensures the data remains encrypted from the point of creation throughout the imaging process. Multiple and overlapping custom systems ensure that all game data is confidential and represents the exact logical specifications as described by *Composer*.

Moments after tickets are imaged onto paper, the company's systems automatically delete encrypted lottery game data, and a host of

custom tools including *Seed Server* ensure complete security throughout the life of the game. The company's patented *Keyed Dual Security* system gives lotteries additional control and additional confidence that the production and management of every ticket is as secure as possible.

Finally, Scientific Games' *Real Time Marking System* is the brain that analyzes the quality metrics of every ticket. Defective tickets are identified by vision systems, sensors and scanners—as well as by experienced press operators—and fed into the *Quality Tracking System*. These systems work together with high-speed cameras and specialized scanners located on the finishing lines and ensure that

all tickets meet the game's required physical specifications. Any defective product is removed from the workstream automatically based on data from the *Real Time Marking* system. These systems form the basis of the company's continuous improvement programs and ensure that only high-quality tickets reach the lottery and its retailers – and ultimately, the player.

Since developing the world's first secure instant game, Scientific Games innovated these many complex scientific systems in a continuous effort to deliver advanced instant products to lotteries worldwide.

Advanced Analytics



Cameron Garrett
VP OF ANALYTICS & INSIGHTS

Lotteries have credible opportunities to refine their product portfolios for performance. There isn't one "right" approach. Scientific Games Analytics & Insights experts use as many relevant data points, methodologies and tools as possible to help lotteries make decisions and reveal new growth opportunities. It isn't just about making one best game, but arriving at a bigger picture to support the best portfolios of games that maximize reach to different player segments.

In this pursuit, the company's advanced analytics come into play, including descriptive and predictive analytics applied to product portfolios and their attributes. The goal is to produce outputs that have tangible real-

world applications that will positively impact the market.

As an example, Scientific Games' *Infuse* business intelligence platform includes a suite of prize structure analysis tools developed by the company's own data scientists. *Infuse* enables functionality such as measuring the degree of prize structure variety or staleness—to ensure that products are never "rinse and repeat." It also allows Scientific Games to create the best possible value proposition for any game, including specific win themes and callouts.

Analysts can even classify different types of prize structure experiences and compare how

a prize structure concept stacks up to others in a portfolio. Of course, prize structures are just one of 15 core determinants that impact consumer demand for instant products. Day in and out, the company's experts are building tools, analyzing lottery customers and their markets, and making recommendations to move the performance needle.

During a time when industry sales are slowing, it's imperative to pay attention to the data these tools provide, keep an open mind by listening to what the data has to say, and most importantly, begin to pull the levers that the lottery industry can control.

Customer Relationship Management



The use of scientific tools has often involved learning from other industries and adapting solutions for lotteries. In the instance of player acquisition and retention, customer service management tools are making a difference for 12 U.S. lotteries. Developing a successful CRM program for lotteries took Scientific Games' vision – and a strategic partnership with Optimove, the first customer-led marketing platform used across a variety of industries.

The results-driven CRM solution is customized and managed by Scientific Games' CRM experts.

It's delivered on the Optimove platform and powered by the combination of rich historical, real-time, and predictive customer data, AI-led multichannel journey orchestration and statistically credible multitouch attribution of every marketing action.

The solution is adapted to fit wherever the lottery is with its digital journey. It focuses on driving player engagement and retention across both traditional retail and digital lottery programs, including second-chance play and iLottery (if applicable). Individualized insights

and a data-driven model of the player lifecycle allow the lottery to personalize and optimize marketing messages to its players just like any other consumer product company.

In fiscal year 2023, participating lotteries increased the total retail value of tickets entered into their second-chance programs by 66% year-over-year, with a 40% YOY increase in the total number of tickets entered. The program drove an incremental uplift in total deposits of more than \$32 million for three participating lotteries that offer iLottery.

Retail Ecosystem



Scientific Games engineers and data scientists have collaborated with marketing experts since the company began. All to make foot-traffic generating lottery products easier for retailers to sell.

Given the volume of many products retailers need to manage in stores, most rely on category management data from their suppliers for real-time and strategic planning decisions. To scale the lottery category within retail, the industry needed a solution to empower the retailer in a simple and reliable way.

In 2016, SCiQ, the lottery industry's first technology ecosystem for the retail environment wrapped data science around

lottery retail for the first time. The ecosystem offered easy, streamlined inventory control and reporting, modern digital menu boards for instant scratch game dynamic display, product security and real-time data analytics to let the lottery and the retailer know what games were selling when and where and perform operational and strategic actions.

The system is now integrated into the company's award-winning self-service *PlayCentral* Powered by SCiQ vending machines. *PlayCentral* machines also feature *GameChoice*, a smart recommendation engine created by Scientific Games that gives players a modern purchasing experience similar to shopping at their favorite retailer online.

Using a rich data set, *GameChoice* delivers specific product suggestions during the player's purchasing journey featuring other exciting lottery games and promotions that players like them enjoy. The recommendations are driven by a logical analysis of the player's lottery "shopping bag or basket" before checkout at the vending machine, along with the history of what lottery products other players purchased together. The engine uses data generated by *Infuse*, Scientific Games' automated, enterprise business intelligence providing end-users with data-driven insights. Together, a perfect illustration of how Scientific Games tools all work together to achieve results.

