

# The Math of Luck: How Random Number Generators Work in Slots and Live Dealer Games

One of the most important tools used to ensure the fair distribution of winnings to online casino players is the RNG (Random Number Generator). It is used in slot machines and live dealer games. This program eliminates the possibility of the gaming house influencing the outcome of the game.

Such a feature distinguishes online casino betting from the old-style offline betting. In this article we will talk in detail about the Random Number Generator, the peculiarities of its use in slots and live casino games.

You will learn the difference between RNG and RTP, as well as who and how casino games are tested for RNG compliance with established international requirements. This material was prepared in collaboration with the renowned Polish expert Jan Michalski.

## What Is RNG: Basic Features

A Random Number Generator, also known as a RNG, is an algorithm that generates random sequences of numbers. In the context of online casinos, random numbers determine the outcome of each game round. This, in turn, influences which symbols will appear on the reels of the slots or on the live dealer table, and what the outcome of the game will be.

Predictability is virtually eliminated in RNG games. However, in licensed games it is possible to predict with a high probability of getting or not getting the player's winnings. The distribution is even, which means that after a long absence of winning combinations, the player's chances of

success increase. And vice versa, after a big win they decrease.

## **The Impact of RNG on Winnings and the Use of No Deposit Bonuses**

The role of RNG also extends to influencing casino bonuses, such as no deposit bonuses. For instance, with a bonus like 25 PLN no deposit, which is convenient to choose on <https://sizzlinghotspot.pl/25-euro-bez-depozytu/>, the unpredictability of RNG ensures that all players have an equal chance of hitting a winning combination, regardless of whether they are playing with bonus money or real funds.

However, since licensed games follow patterns of win distribution, players might experience stretches without a win, during which the chances of success gradually increase. Using bonus 25 PLN no deposit during such phases could potentially give players a higher likelihood of hitting a winning combination.



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## Slots and Live Casino Games: Difference of RNG in These Types of Gambling

In the gaming industry, RNG is not just an algorithm that generates random numbers for games such as slots. In a broader sense, RNG games refer to any game of chance where the outcome depends on random numbers. In contrast, live dealer games rely not only on software, but also on human action.

The most prominent example of RNG is the slot machine. When a player presses a button, the algorithm generates a random sequence of images on the reels, which either brings a win or not.

Live dealer games create the atmosphere of a real casino and depend on the human factor, too. In these games, the outcome

of a round is determined by the way the dealer shuffles the cards or spins the roulette wheel, not just the algorithm.

*The main difference between the two is that slots rely entirely on algorithms, while live casino games also depend on human action.*

## **RNG & RTP: What Is the Difference?**

In addition to the RNG, RTP (Return to Player) is another important factor that affects the game's algorithms. These two parameters are often confused, but they work together.

Unlike the Random Number Generator, RTP represents the percentage of bets that are returned to players in the form of winnings. However, RTP does not guarantee winnings, but only indicates the likelihood of payouts in the long run.

The relationship between RNG and RTP is determined during the game design phase. Before creating the random number generation algorithm, the provider determines the target RTP. The algorithm is then tuned so that over the long term (typically more than 1000 rounds) the theoretical RTP matches the target RTP.

In this way, the RNG and RTP work in parallel, but have different goals. *The Random Number Generator is responsible for the randomness and fairness of the gaming process, while the Return to Player allows players to evaluate how effectively the casino is adhering to these standards.*

## **RNG Gaming Audit and Certification**

Random Number Generator is an online gaming framework that helps operators and game suppliers implement a "Provable Fairness" strategy. This term refers to an approach to verifying and validating the trustworthiness of specific casinos to their audience.

An RNG audit confirms that a game is compliant and “operates” fairly. Such certificates are most often requested by players themselves, who want to be sure that they are investing their money in a reliable casino offering games from an official supplier. Next, we will look at who issues RNG compliance certificates and how to obtain them:

- **eCOGRA (eCommerce Online Gaming Regulation and Assurance)** is an organization based in London that deals with the verification of gaming software and online systems. The main objective is to protect the rights of players, ensure fair play and the responsibility of operators. The eCOGRA experts analyze the compliance of the games with the requirements of the GSC and the correctness of their operation. If the audit is successful, a report and eCOGRA certificate are issued.
- [iTech Labs](#) has been a leader in online gaming testing and certification since 2004. The company is accredited in Europe, Asia and the Americas. iTech Labs tests games according to the licensing requirements of a particular jurisdiction. The certification process includes:

1. Code analysis;
2. Stability testing;
3. Real-world testing.

- **Gaming Labs International (GLI)** is a well-known laboratory that certifies games based on the HCS. GLI certificates are recognized in global markets, making them sought after by iGaming brands. The verification process includes several steps: review of the HGC code, stability testing, and verification of the distribution of results.

When choosing an online casino, it is advisable to check if

the games are certified by one of these companies. This information can be found in the footer of the site or in the casino's Terms and Conditions.