**Why L2**

**Introduction**

In previous lessons, we deployed to the Sepolia testnet and started working with the Layer 2 solution ZKsync. Deploying to Sepolia simulates deployment to the Ethereum mainnet, offering a comprehensive understanding of Layer 1 deployments. However, it's important to note that most projects today prefer deploying to Layer 2 solutions rather than directly to Ethereum due to the high costs associated with deployments.

**Gas Usage**

When deploying to a ZKsync local node, a /broadcast folder is created, containing a lot of detailed deployment transaction information. For instance, in our run-latest.json file, we can see the gasUsed value and we can convert this hexadecimal number 0x5747A to its decimal equivalent by typing cast to base 0x5747A dec. This conversion allows us to estimate the deployment cost on the Ethereum mainnet. By checking recent gas prices on Etherscan, we can calculate the total cost using the formula:

Total Cost = Gas Used \* Gas Price

We can see this total cost in the deployment transaction on [Sepolia Etherscan](https://sepolia.etherscan.io/tx/0xc496b9d30df33aa9285ddd384c14ce2a58eef470898b5cda001d0f4a21b017f6), under the Transaction Fee section. In this case, 357,498 gas will costs 0.000279288255846978 ETH, which today is equivalent to $7.

Deploying even a minimal contract like SimpleStorage on Ethereum can be expensive. Larger contracts, with thousands of lines of code, can cost thousands of dollars. This is why many developers prefer deploying to Layer 2 solutions like ZKsync, which offer the same security as Ethereum but at a fraction of the cost.

**Deploying to ZKsync Sepolia**

Deploying to ZKsync Sepolia is similar to deploying to a ZKsync local node. You can retrieve a ZKsync Sepolia RPC URL from [Alchemy](https://www.alchemy.com/) by creating a new app based on the ZKsepolia network. Then, you can proceed to add the ZKSYNC\_RPC\_URL to your .env configuration.

🗒️ **NOTE**  
To understand the cost benefits of Layer 2 solutions, visit [L2Fees.info](https://l2fees.info) and compare the significant cost differences between sending a transaction on Ethereum and ZKsync Era.