

The EES system is designed to be a bridge between two blockchains: the Ethereum native blockchain, and the R-Squared native blockchain, and uses Hashed TimeLock Contract technology.

If you do not already have an account go to [portal.rsquared.digital](https://portal.rsquared.digital) to create an account and get a wallet (be sure to pay attention to the language about backing up your account information). It's best to use a laptop or desktop with a Chrome or Firefox browser. You also will need to be set up to use Metamask from your browser.

### Deposit - Step by Step

(Please be aware that you'll need to have, or acquire, some RQRX if you wish to perform a Withdraw operation after completing a Deposit)

1. Select "Deposit" from the drop-down menu in the upper right.
2. **IMPORTANT: You must definitely copy / jot down and save the Secret in order to redeem your Deposit later. You may use the copy button at the end of the row to copy the Secret if you wish to paste it somewhere safe. If you lose the Secret, the Deposit will not happen and you will have to start all over again. So continue with the displayed form and DON'T LOSE YOUR SECRET (see note 1 below).**
3. Now, if you'd like, you can adjust the amount of your Deposit above the pre-set minimum. The system is set up to process up to 5 decimal places.
4. A TimeLock date and time stamp will also be generated for you for the Ethereum blockchain side of the processing (see note 2 below).
5. Now click "CREATE DEPOSIT" to start the process.
6. Next click "CREATE NEW EXTERNAL HTLC CONTRACT" and you will see a Metamask window appear (again, you must connect to and use Metamask for Deposits and Withdraws).
7. Now click to confirm your transaction in Metamask.
8. After confirming in Metamask, you may see that your R-Squared account is locked. Just click the "UNLOCK YOUR ACCOUNT" button and enter your password.
9. **At this stage, the corresponding blockchains require some time to perform their operations (typically several minutes).**

**IMPORTANT: IT'S BEST TO BE PATIENT AND AVOID BROWSING AROUND WITHIN THE BROWSER TAB. IT'S BEST TO COMPLETE THE ENTIRE DEPOSIT PROCESS IN ONE SITTING (see note 4 below).**

10. You can check on the Deposit status by clicking the "CHECK DEPOSIT CONTRACT CREATED" on the webpage (it won't exit you from the page). If the Deposit is not ready yet, you will see a pop-up message in the upper right corner of the screen "Transaction is pending, please wait". There's also an "Explorer link" which will open a separate tab for

you to check the transaction status on the Ethereum side. After 10 Ethereum blocks, that side should be done, then the R-Squared contract will be created.

11. You'll know that the transaction is ready to finish when you see a "REDEEM" button appear after clicking "CHECK DEPOSIT CONTRACT CREATED".
12. Click the "REDEEM" button.
13. Now it's time to enter your Secret (the correct Secret glows green upon entry). After entering the Secret, click "SEND".
14. Then click "CONFIRM" on the R-Squared system to complete your transaction.
15. The R-Squared blockchain should now execute the transaction (once the transaction is completed, you no longer need to save your Secret).
16. You can now check your updated balance on the Portfolio page.

#### DEPOSIT NOTES:

1. Every Deposit will have its own Secret. And also, each time you exit a new-Deposit form page with an unprocessed form on it, and then go back in, the system will auto-generate a new Secret for a new form. Make sure you copy / write down the Secret that's on the form page you intend to process before processing. Also, for advanced users: if you know how to generate your own SHA-256 pair, you must generate a new pair for each new Deposit.
2. You should try and complete your Deposit as soon as the systems allow you to. However, if the process is not completed and the scheduled Ethereum TimeLock expires, your locked ETH should be unlocked to be able to call a refund back to your wallet (see note 3). There's also a calendar feature that allows you to extend your ETH TimeLock when you create a Deposit, but it's recommended to stick with the pre-set date & time.
3. We've built a user-friendly, straight-through way for you to call and get your refunds, minus transaction costs, after TimeLock expires under the "current deposits" link if you pledged your ETH but weren't able to fully finish the Deposit process before the TimeLock runs out. If you do lose your place or lose access to your Deposit link, you should still be able to retrieve a refund of your pledged ETH after the TimeLock expires, however that will require you to interact directly with the Ethereum contract on your own which takes some technical know-how.
4. As there are fees involved in the process, it's best to perform each Deposit one at a time, and within the same browser session – and to generally stay on the page you're on until the contracts are ready to redeem, and then complete the process all in one sitting. For security purposes, Deposits are performed in your local browser session, which means that if you clear your browser with an incomplete Deposit you will need to start again from scratch. You may copy & paste the Deposit link if you'd like to return to it later. You may also click on "current deposits" link in the menu drop down which should provide you with a list of your Deposits and various statuses – so if you

lose your place there's a place to go to find your Deposits. However, again, this list is dependent upon your local browser session, so it is recommended to complete your Deposits by not browsing around to other pages while you're waiting for processing.

## **Withdraw - Step by Step**

1. Select "Withdraw" from the drop-down menu in the upper right.
2. You will see a form to create a request.
3. You can adjust the amount above the pre-set minimum if you'd like. The system is set up to process up to 5 decimal places.
4. **IMPORTANT: You must now definitely copy / jot down and save the Secret in order to redeem the transaction later. You may use the copy button at the end of the row to copy the Secret if you wish to paste it somewhere safe. If you lose the Secret, you will not be able to complete the Withdraw transaction and you will have to try again; so continue with the displayed form and DON'T LOSE YOUR SECRET (see note 1 below).**
5. Enter your ETH Address (it will need to be an address connected to your Metamask on your browser).
6. When the fields are filled and you have your Secret handy, click on the button "CREATE WITHDRAW".
7. Check details and click "UNLOCK YOUR ACCOUNT" if your account is locked.
8. Now enter your password.
9. Click "CREATE WITHDRAW TRANSACTION" and confirm your transaction.
10. **The blockchains now require some time to perform their operations (this may take several minutes, and typically longer than Deposit wait time).**

**IMPORTANT: IT'S BEST TO BE PATIENT AND AVOID BROWSING AROUND WITHIN THE BROWSER TAB, AND COMPLETE THE ENTIRE WITHDRAW PROCESS IN ONE SITTING (see note 2 below).**

11. You can check the Withdraw status by clicking the button "CHECK WITHDRAW CONTRACT READY TO SIGN" within the webpage (it won't exit you from the page). If the Withdraw is not ready yet, you will see a pop-up message in the upper right corner of the screen "Transaction is pending, please wait". The Ethereum contract address is 0x82a7a82b0477D40B2E1d342DD3601188a693c8FF if you'd like to check on the Ethereum side of the operations (contracts will require 10 block confirmations plus some communication time).
12. When the transaction is ready, after clicking "CHECK WITHDRAW CONTRACT READY TO SIGN" you will see a "REDEEM" button.
13. Click the "REDEEM" button.
14. Now enter your Secret.

15. The correct Secret glows green.

16. Then confirm your transaction in Metamask.

17. Ethereum should now execute the Withdraw transaction (once this is done, you no longer need to save your Secret).

#### WITHDRAW NOTES:

1. Every Withdraw will have its own Secret. And also, each time you exit a new-Withdraw form page with an unprocessed form on it, and then go back in, the system will auto-generate a new Secret for a new form. Make sure you copy / write down the Secret that's on the form page you intend to process before processing. Also, for advanced users: if you know how to generate your own SHA-256 pair, you must generate a new pair for each new deposit.
2. As there are fees involved in the process, it's best to perform each Withdraw one at a time, and within the same browser session – and to generally stay on the page you're on until the contracts are ready to redeem, and then complete the process all in one sitting. For security purposes, Withdraws are performed in your local browser session, which means that if you clear your browser with an incomplete Withdraw you will need to start again from scratch. You may copy & paste the Withdraw link if you'd like to return to it later; however, again, this is dependent upon your local browser session, so it is recommended to complete your Withdraws by not browsing around to other pages while you're waiting for processing.