



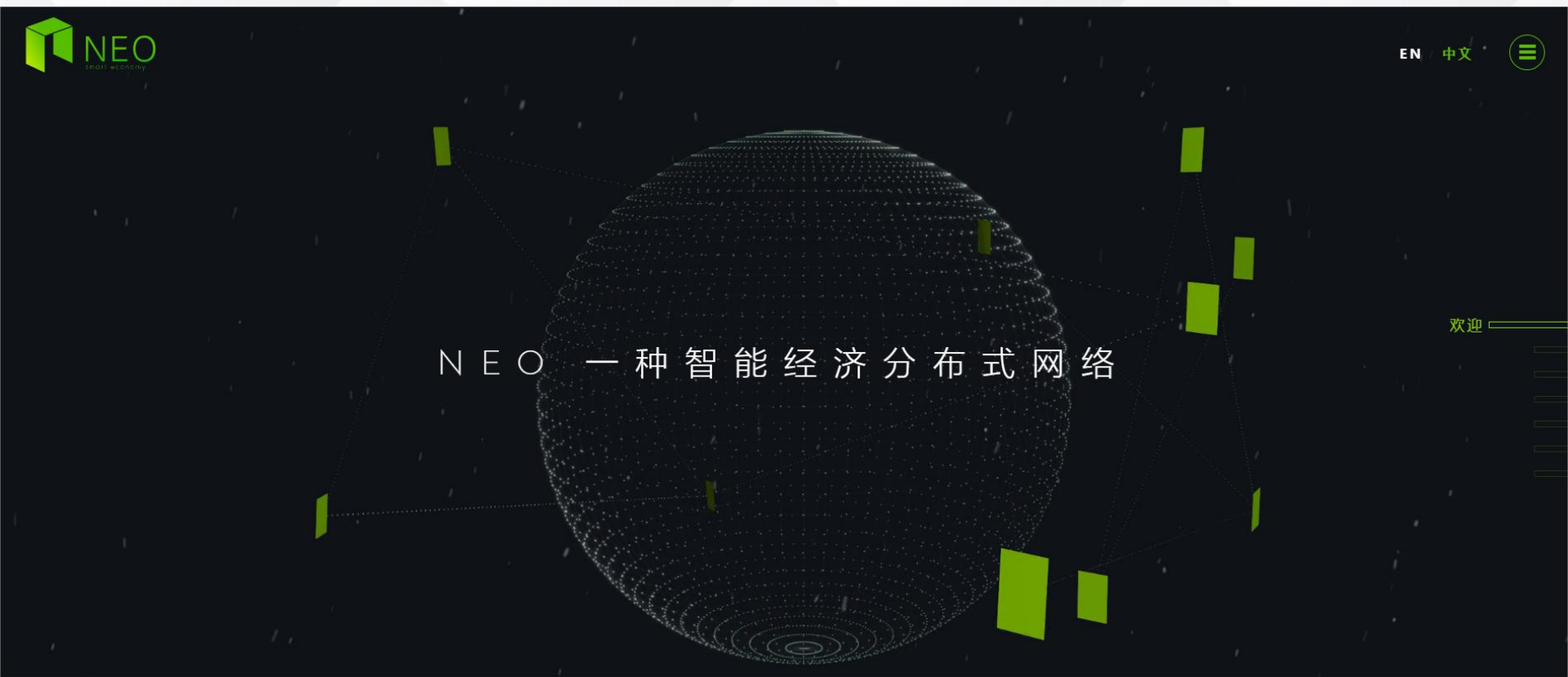
# NEP5 Token Standard

NEO Smart Contract

林鹏涛


Peter Lin

# 社群的力量 The Strength of Community




# 社群的力量

## The Strength of Community


 GITHUB: NEO-PROJECT


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 TWITTER: NEO\_BLOCKCHAIN

 FACEBOOK: NEOSMARTECON

 QQ : 23917224

 微博 : @NEO智能经济

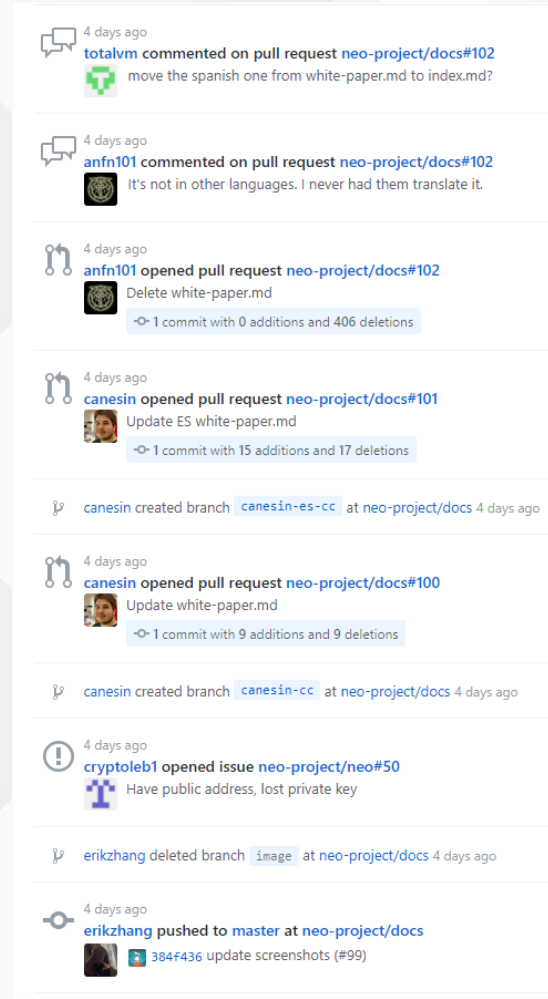
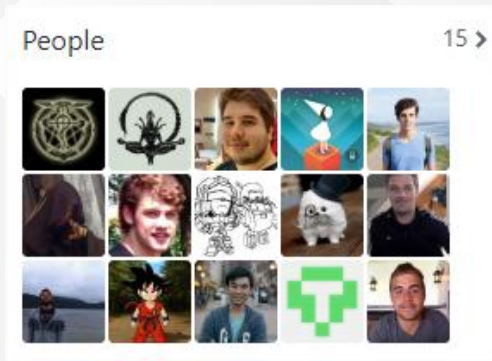
 活动行 : NEO智能经济

# 社群的力量 The Power of Community

核心开发者

社区开发者

社区参与者



# 社群的力量 The Power of Community

## NEO Docs

docs.neo.org 是 NEO 全新的技术文档体验。

NEO 全部的技术文档都在这里，还有还有众多开发示例可供参考。

点击 [中文](#) 开始阅读中文技术文档。

See the [English](#) documentation.

Ver documentación en [Español](#).

[日本語版ドキュメントを参照して下さい。](#)

[한국어](#) 문서를 참조하시길 바랍니다.

[Deutsche](#) dokumentation ansehen.

Zie de [Nederlandse](#) documentatie.

中文

英语

西班牙语

日语

韩语

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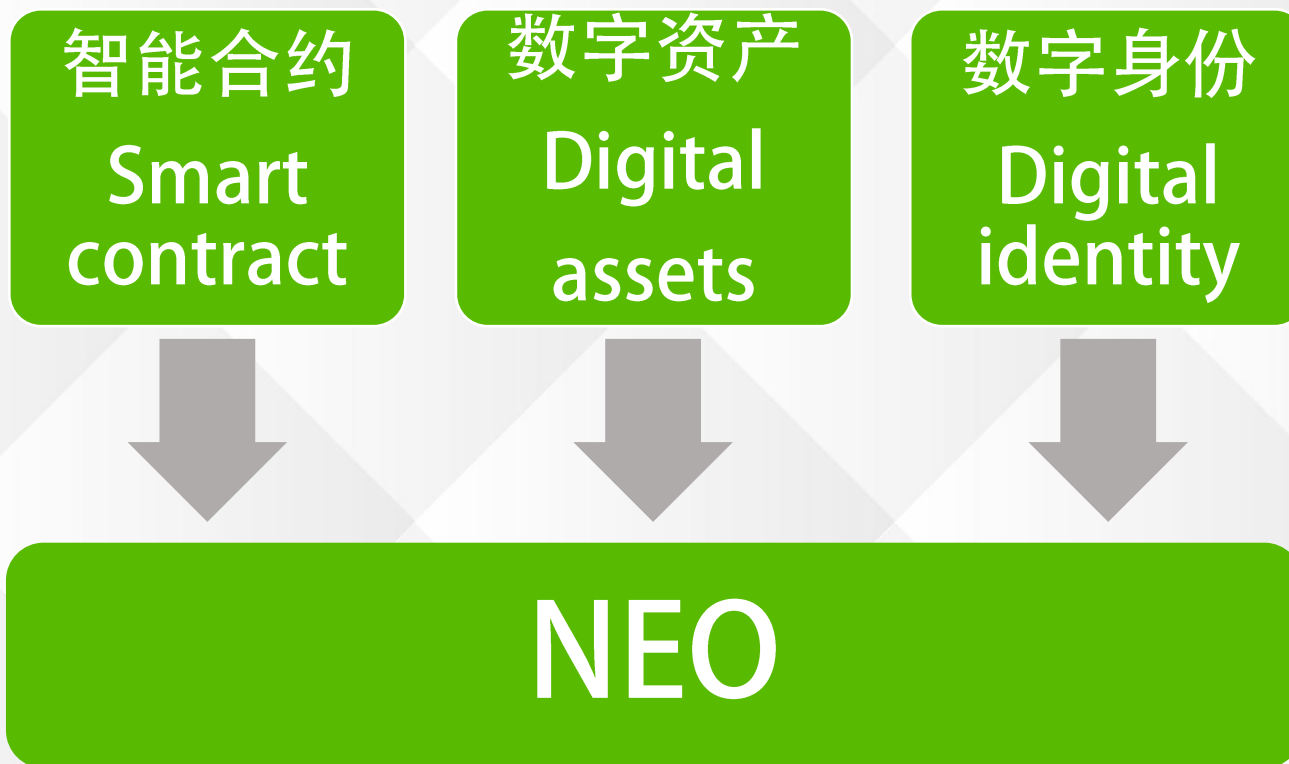
# ■ NEO: 智能新经济

# Digital Asset For Everyone

# Smart Economy



# NEO: 智能新经济



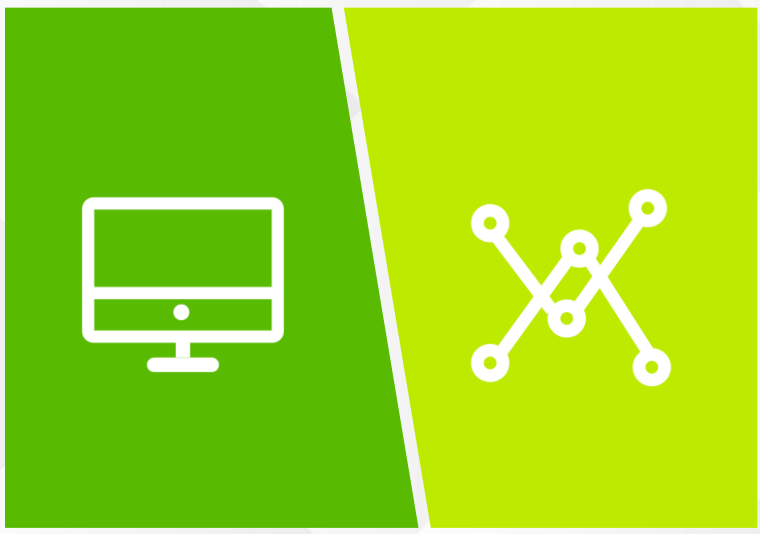
# 什么是智能合约 What is Smart Contract ?

1994 密码学家尼克萨博 ( Nick Szabo ) 最先提出智能合约理念

## 智能合约

“智能合约是指能够自动执行合约条款的计算机程序”

Smart contract :  
Auto-execution of  
computer programs



## 区块链

“区块链为智能合约提供的可靠的执行环境”

Blockchain: a sound  
environment  
for smart contract



# NEP5 Token Standard

```

public class ContractAsset : FunctionCode
{
    public static object Main(string operation, params object[] args)
    {
        switch (operation)
        {
            case "create":
                return Create((string)args[0], (BigInteger)args[1], (byte[])args[2]);
            case "transfer":
                return Transfer((byte[])args[0], (byte[])args[1], (BigInteger)args[2]);
            default:
                return false;
        }
    }

    public static byte[] Create(string name, BigInteger amount, byte[] owner)
    {
        Contract contract = Blockchain.GetContract(ExecutionEngine.ExecutingScriptHash);
        byte[] script = contract.Script.Concat(name.AsByteArray());
        contract = Contract.Create(script, new byte[] { 5, 16 }, 5, true, name, "1.0.0-preview1", owner.AsString(), "", name);
        Storage.Put(contract.StorageContext, owner, amount.ToByteArray());
        return Hash160(contract.Script);
    }

    public static bool Transfer(byte[] from, byte[] to, BigInteger value)
    {
        if (value <= 0) return false;
        if (from.Length != 33 || to.Length != 33) return false;
        if (!Runtime.CheckWitness(from)) return false;
        byte[] data = Storage.Get(Storage.CurrentContext, from);
        if (data == null) return false;
        BigInteger available = new BigInteger(data);
        if (available < value) return false;
        available -= value;
        Storage.Put(Storage.CurrentContext, from, available.ToByteArray());
        data = Storage.Get(Storage.CurrentContext, to);
        if (data == null)
            available = 0;
        else
            available = new BigInteger(data);
        available += value;
        Storage.Put(Storage.CurrentContext, to, available.ToByteArray());
        return true;
    }
}

```



## ■ NEP5 Token Standard

钱包

交易所

智能合约

标准

## ■ NEP5 Token Standard

# Neo Enhancement Proposal

## ■ NEP5 Token Standard

**BIP: Bitcoin Improvement Proposal**

**EIP: Ethereum Improvement Proposal**



# NEP5 Token Standard

## Table of Contents

#	Title	Author	Type	Status
1	NEP Purpose and Guidelines	Erik Zhang	Meta	Active
2	Passphrase-protected private key	Erik Zhang	Standard	Accepted
3	Wallet Standard		Standard	Stub
4	URI Scheme		Standard	Stub
5	Token Standard	llwlvllll, luodanwg, tanyuan, Alan Fong	Standard	Accepted
	Superconductive Exchange		Standard	Stub
	Dynamic Sharding		Standard	Stub
	Compact Block Relay		Standard	Stub
	Peer Authentication		Standard	Stub
	Aggregate Signature		Standard	Stub
	SM2 Cryptography		Standard	Stub
	Homomorphic Encryption		Standard	Stub
	Zero-knowledge proof		Standard	Stub
	Stealth Addresses		Standard	Stub
	NeoID		Standard	Stub
	NeoFS		Standard	Stub
	NeoX		Standard	Stub
	NeoQS		Standard	Stub

# NEP

## ■ NEP5 Token Standard

# Is NEO token an ERC20 token

## ■ NEP5 Token Standard

**比特币：The King of Tokens**

**以太坊：Tokens Everywhere**



## ■ NEP5 Token Standard

# ERC20: ICO的催化剂

```
1 // https://github.com/ethereum/EIPs/issues/20
2 contract ERC20 {
3     function totalSupply() constant returns (uint totalSupply);
4     function balanceOf(address _owner) constant returns (uint balance);
5     function transfer(address _to, uint _value) returns (bool success);
6     function transferFrom(address _from, address _to, uint _value) returns (bool success);
7     function approve(address _spender, uint _value) returns (bool success);
8     function allowance(address _owner, address _spender) constant returns (uint remaining);
9     event Transfer(address indexed _from, address indexed _to, uint _value);
10    event Approval(address indexed _owner, address indexed _spender, uint _value);
11 }
```



# ■ NEP5 Token Standard

**ERC20**

**ERC223**



# NEP5 Token Standard

```

1 public static Object Main(object firstArg, params object[] args)
2 {
3     if (Runtime.Trigger == TriggerType.Verification)
4     {
5         byte[] signature = (byte[])firstArg;
6         return VerifySignature(Owner, signature);
7     }
8     else if (Runtime.Trigger == TriggerType.Application)
9     {
10        string operation = (string)firstArg;
11        if (operation == "deploy") return Deploy();
12        if (operation == "mintTokens") return MintTokens();
13        if (operation == "totalSupply") return TotalSupply();
14        if (operation == "name") return Name();
15        if (operation == "symbol") return Symbol();
16        if (operation == "transfer")
17        {
18            if (args.Length != 3) return false;
19            byte[] from = (byte[])args[0];
20            byte[] to = (byte[])args[1];
21            BigInteger value = (BigInteger)args[2];
22            return Transfer(from, to, value);
23        }
24        if (operation == "balanceOf")
25        {
26            if (args.Length != 1) return 0;
27            byte[] account = (byte[])args[0];
28            return BalanceOf(account);
29        }
30        if (operation == "decimals") return Decimals();
31    }
32    return false;
33 }

```

## NEP5 Protocol

# ■ NEO FUTURE

**NEO \* Community = Better World**



# THANKS!

for watching

林鹏涛

Peter Lin