

UniFi
Ricardian Contracts



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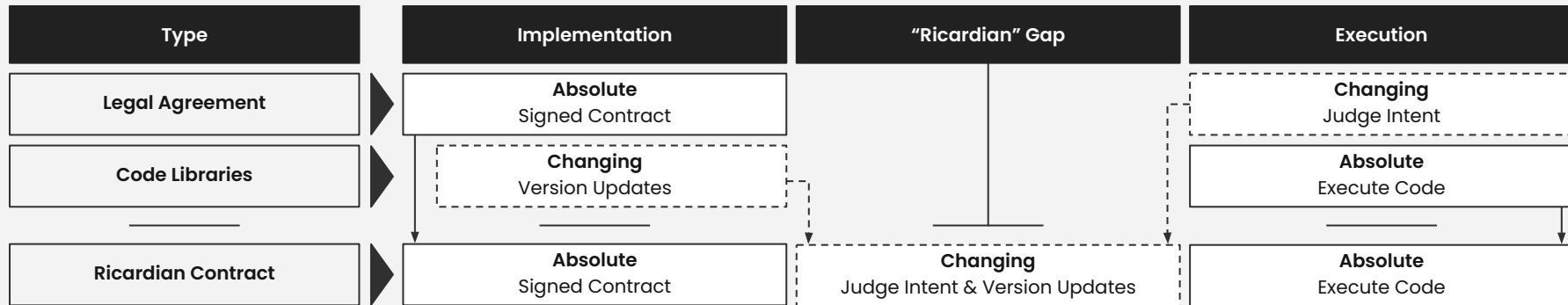
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Ricardian Contracts

01

Starting from Scratch



Property	Legal Contract	Smart Contract	Ricardian Contract
Human Readable	Yes	No	Yes
Subject to Interpretation	Yes	No	Yes
Machine Readable	No	Yes	Yes
Self Executing	No	Yes	Yes

Why Ricardian Contracts

Versatile Legal Contracts

Blockchain Functionality Meets Legal Agreements

- Adds DLT and **smart contract functionality** to standard legal agreements
- Implement **condition precedent** and subsequent
- Enhanced transparency, **reduced costs**, and time optimizations when resolving a dispute
- Preserve **richness and nuance** legal agreements

Legally Binding Smart Contracts

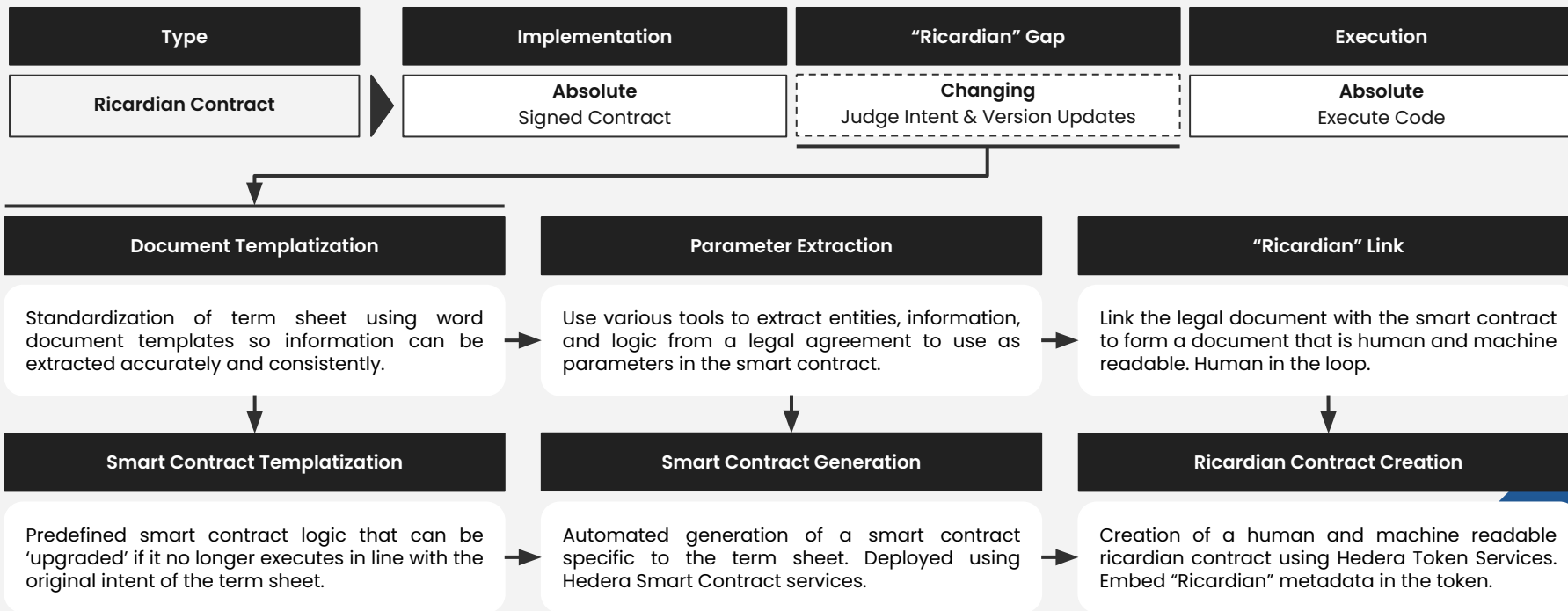
Smart Contracts That Hold Weight in Court

- **Legally binding** and can be used in court.
- Have the power to resolve disputes occurring **outside DLT-based systems**
- Provides **security** against fraudulent activities
- **Legitimize DLT** technology in the eyes of regulators and governments

Bottom Line: Readable, Trustworthy, Versatile.



Bridging the Gap



Business Value

02

Use Cases

01

Financing

Bonds

Ricardian contracts can be generated from term sheets and used to execute tokenized debt instruments, which can help firms raise funds & obtain capital.

Tokenizing debt instruments can solve long settlement times and manual processes by automating and speeding up the issuance process.

Loans

02

ESG

Carbon Credit Tokens

The generation of fungible or non-fungible ESG security tokens can be used by corporations to offset their footprint and achieve carbon negative status.

Ricardian contracts run on Hedera's carbon negative network can facilitate the automation of ESG token related activities while ensuring legal and regulatory compliance.

ESG NFTs

03

Industry

Supply Chain – Ownership & Visibility

Record ownership rights as items move through the supply chain, showing a clear chain of ownership at each stage. With IoT sensors, products can be tracked from producers, to warehouses, to manufacturers, and to suppliers.

Healthcare – Drug Traceability

Patient, health payers, and drug manufacturers can enter into encrypted and authentic Ricardian agreements on a DLT platform. Health payers will reimburse manufacturers when patients order prescriptions as per their plan.

Insurance – Automated Policies

The insurance process is largely manual, adding huge administrative costs and time delays that result in higher premiums for customers. Automating policies by writing them into Ricardian contracts will ease these issues.



UniFi Demo

03

Parameter Extraction

Field: Date

• Logic to handle relative and absolute dates

```

IN [6]: from date_test:
        end, start = 1
        res = ee.extract_date(end, start)
        print('='*10)
        print(f'{color.BOLD}input:{color.END} {1}')
        print(f'{color.BOLD}output:{color.END} {res[0]}')

=====
input: ('4 months from the issue date', 'Issue date is 12 March 2023')
output: {'start_date': datetime.date(2023, 5, 12), 'end_date': datetime.date(2023, 7, 12), 'time_diff': relativedelta(months=+2)}

=====
input: ('1 year from Issue', 'Issued on 15 September 2020')
output: {'start_date': datetime.date(2020, 9, 15), 'end_date': datetime.date(2021, 9, 15), 'time_diff': relativedelta(years=+1)}

=====
input: ('December 13, 2023', 'Issue date is June 13 2022')
output: {'start_date': datetime.date(2023, 6, 13), 'end_date': datetime.date(2023, 12, 13), 'time_diff': relativedelta(years=+1, months=+6)}

```

Field: Interest Rate

• Extract multiple pieces of information from complex and unstructured text data

```

IN [7]: from Interest_test:
        res = ee.extract_interest(1)
        print('='*10)
        print(f'{color.BOLD}input:{color.END} {1}')
        print(f'{color.BOLD}output:{color.END} {res[0]}')

=====
input: 21.25% yearly accruing marginally interest shall be applied to the issue of further 10% premium which shall be

```

Full Deployment

Full Deployment Demo

1) Document Upload & Parameter Extraction

```
In [4]: filepath = './files/word/Term Sheet - Demo 2.1.docx'
        params, links, instr = wr.parse_fields(filepath)

In [5]: params

Out[5]: {'tokenName': 'Unit1 Token', 'tokenSymbol': 'UNI', 'multiple': 2}
```

```
In [6]: links

Out[6]: {'tokenName': 'Unit1 Token', 'tokenSymbol': 'UNI', 'multiple': 2, 'linkPath': 'The principal amount of 2'}
```

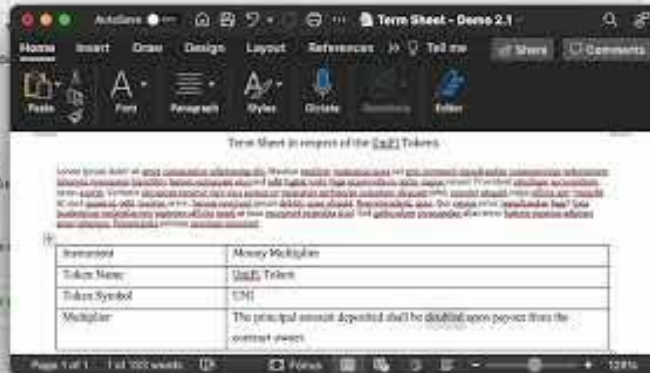
2) Publish Document to IPFS

```
In [7]: parampath = './params.json'
        with open(parampath, 'w') as json_file:
            json.dump(params, json_file)

        linkpath = './links.json'
        with open(linkpath, 'w') as json_file:
            json.dump(links, json_file)

In [8]: api = ipfsApiClient('103.3.0.1', 5001)

In [9]: docHash_dict = api.add(filepath)
        docHash_dict[0]
```

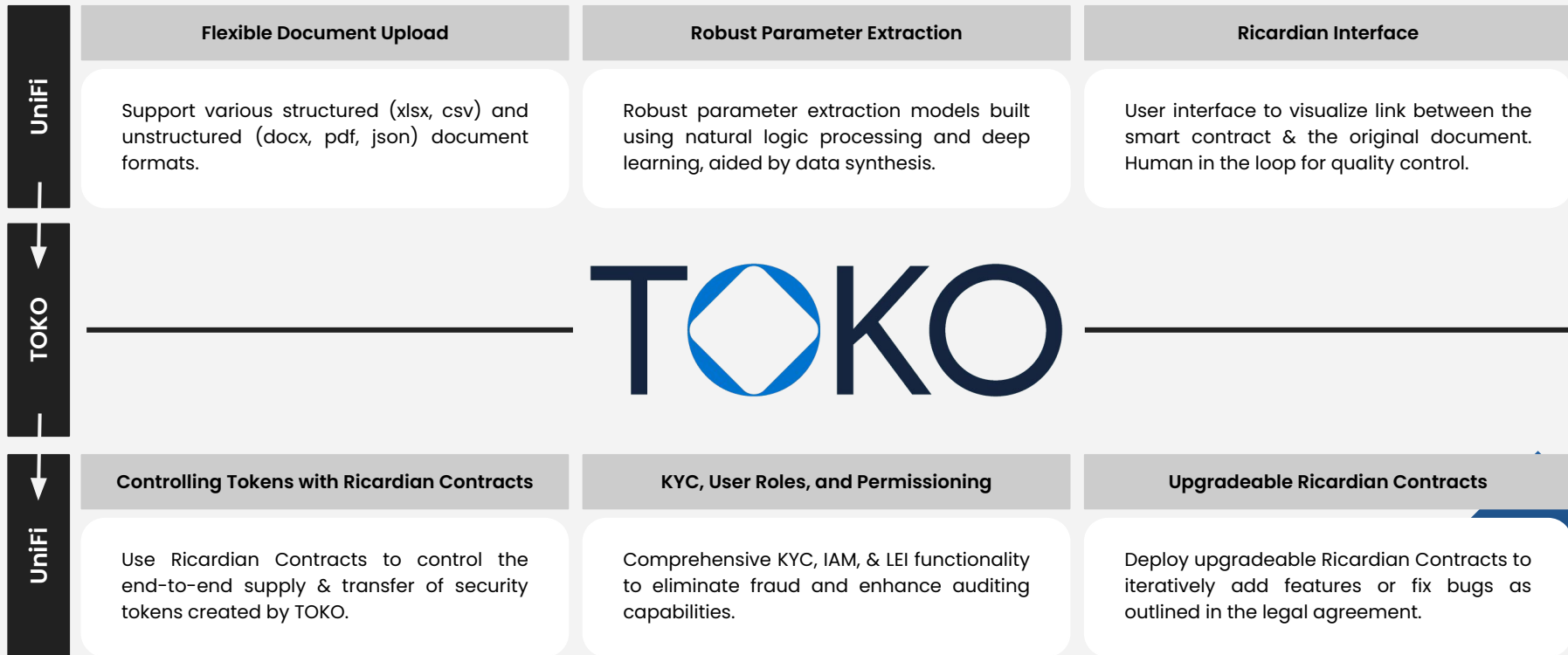


Term Sheet in respect of the [UNI] Tokens	
Token Name	Unit1 Token
Token Symbol	UNI
Multiplier	2

TOKO Integration

04

TOKO Integration



Thank You

UniFi – Ricardian Contracts

