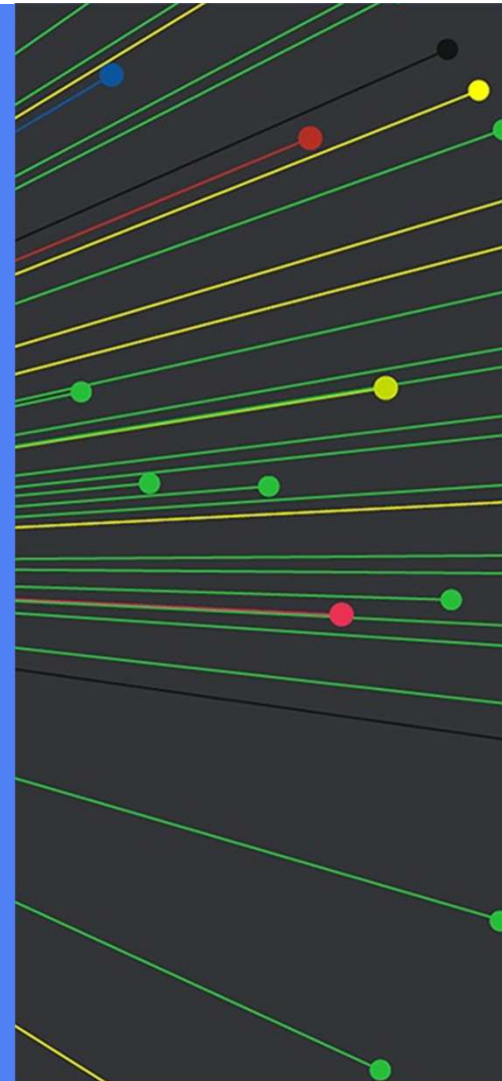




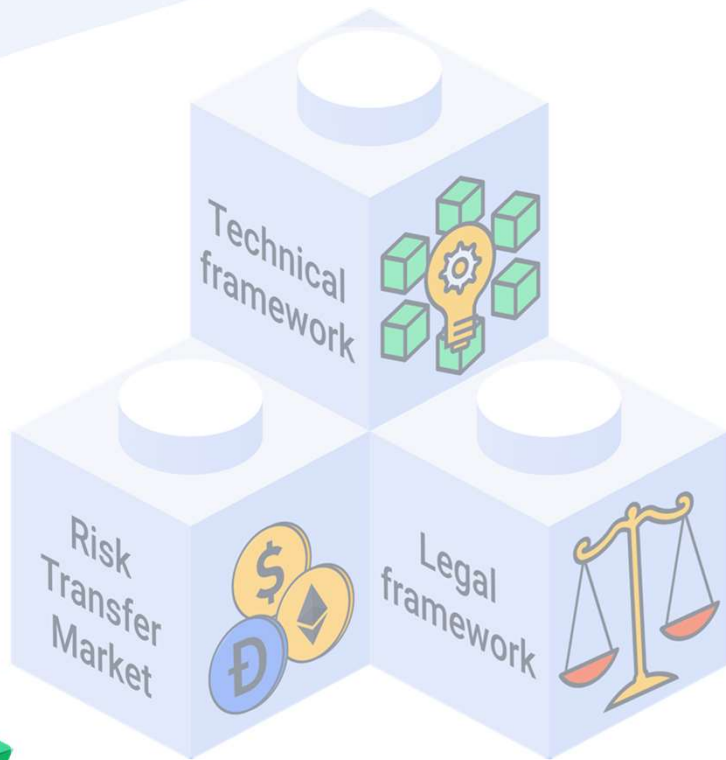
Blockchain technology and weather index insurance

ICII Session 18 "Insurtech for inclusive insurance"

Michiel Berende
CIO Etherisc Impact
michiel@etherisc.com



Etherisc Decentralized Insurance Ecosystem



Ethereum Foundation
Blockchain, Technical Research

Decentralized Insurance Foundation, Switzerland
Promotion, Conference, Community, Grant Programm

Grants

acre AFRICA
Agricultural InsurTech

Etherisc
Impact Insurance



Blockchain technology can bring groundbreaking change and efficiency



V. STANDARD FLOOD INSURANCE POLICY

A. INTRODUCTION

The Standard Flood Insurance Policy (SFP) specifies the terms and conditions of the agreement of insurance between either the Federal Emergency Management Agency (FEMA) as insurer (for policies issued by the NFIP Servicing Agent) or the WYO company as insurer (for policies issued by the WYO Program) and the named insured.

Named insureds in NFIP participating communities include homeowners, renters, business owners, builders of buildings that are in the course of construction, condominium associations, owners of residential condominium units, and mortgagees/trustees (applicable to building coverage only.)

1. The Three Policy Forms

There are three policy forms - Dwelling Form, the General Property Form, and the Residential Condominium Building Association Policy. Each is used to insure a different type of property. All, however, contain certain terms and conditions (e.g., Mortgage Clause, Reformation of Coverage) that are unique to flood insurance.

2. Use of Policy Forms

The SFP policy forms must be used for all new and renewal policies that become effective on or after December 31, 2020. On the following pages, you will find a coverage comparison table and a detailed commentary on key provisions of each form.

The Liberalization Clause applies to losses occurring on or after December 31, 2020, for policies written on the old SFP forms.

3. Currentness of Information

The National Flood Insurance Reform Act of 1994 substantially revised the SFP. As noted above, FEMA revised the SFP in December 2020. FEMA published and maintains the Adjusted Claims Manual with its integrated explanations of the 2020 SFP. FEMA published and maintains Policy Issuances and Claims and Underwriting Bulletins to further explain and clarify coverage under the SFP. These are available at www.fema.gov/direct. All other earlier policy explanations, coverage interpretations, policy guidance memorandums, and letters are superseded and should not be referred to in determining coverage.

B. COVERAGE COMPARISON TABLE

The table on pages V-2 and V-3 shows similarities and differences among the three SFP forms for more than 30 coverage items.



```
def add5(x):
    return x+5

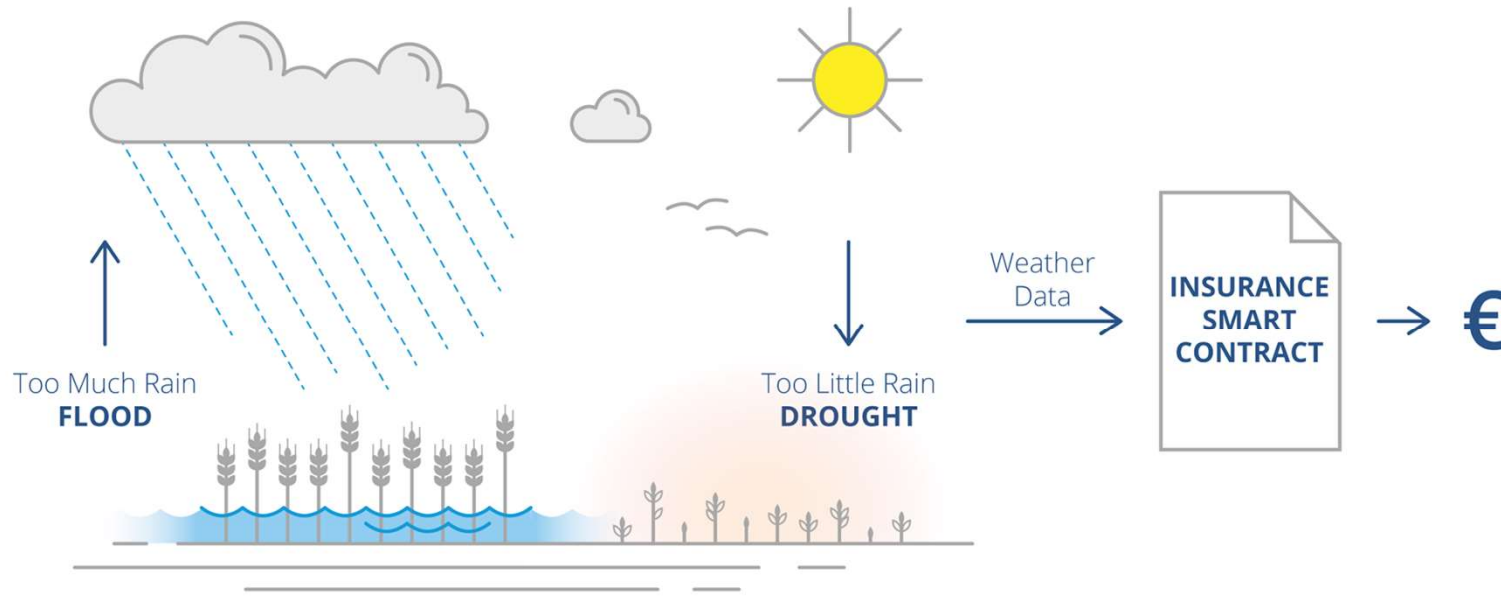
def dotwrite(ast):
    nodename = getNodename()
    label=symbol.sym_name.get(int(ast[0]),ast[0])
    print ' %s [%s]' % (nodename, label),
    if isinstance(ast[1], str):
        if ast[1].strip():
            print '= %s';' % ast[1]
        else:
            print ''
    else:
        print '];'
        children = []
        for in n, childrenumerate(ast[1:]):
            children.append(dotwrite(child))
        print ' %s -> {' % nodename
        for in :namechildren
            print '%s' % name,
```

Agreements and contracts can be converted to code called "smart contracts" which automatically execute functions previously performed by an individual.



Weather index insurance on the blockchain

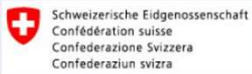
Smart Contracts: Well suited to parametric insurance
Rainfall and drought
Disasters like, earthquakes, hurricanes and floods



Etherisc & Acre Africa



VENTURES



acre
AFRICA

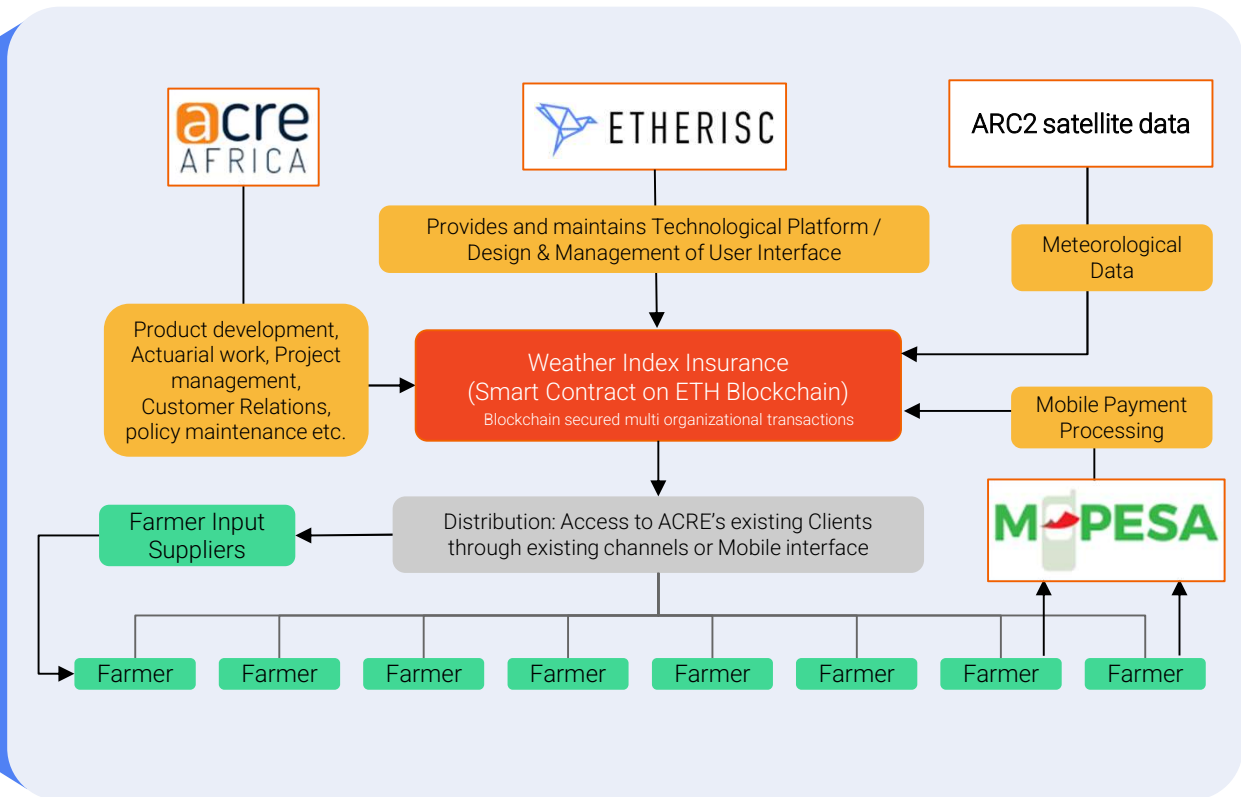


Project partners and their roles

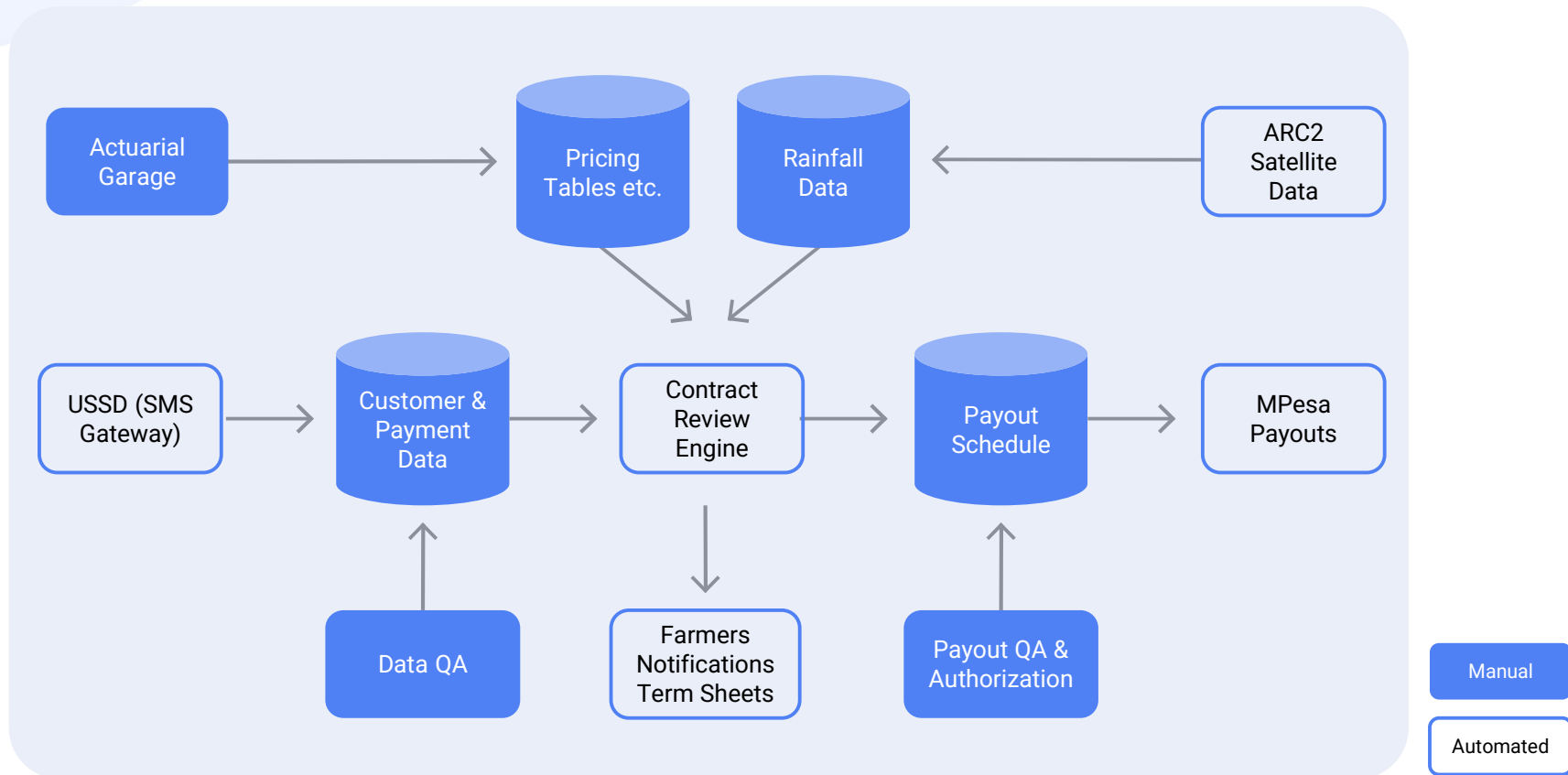


ACRE Africa is the lead partner to develop provide and distribute the index insurance product to farmers. Manages farmer engagement and communication through mobile and web interfaces.

Etherisc provides and maintains the backend of the blockchain platform (putting policies on blockchain-based smart contracts) and designs & manages the user interface.



High Level Architecture

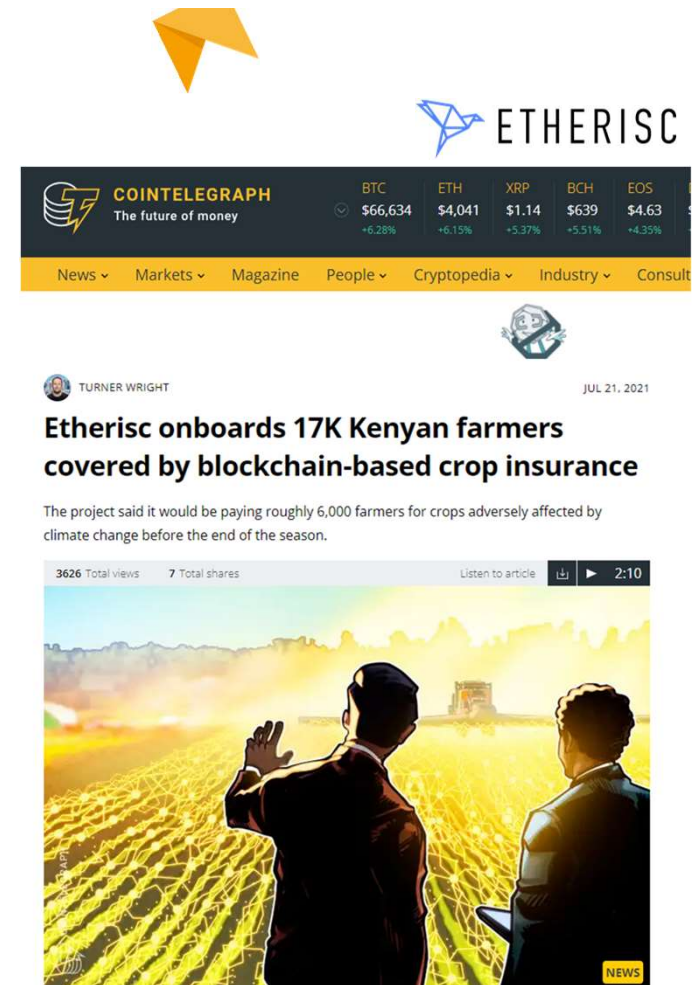


Some results

Before Blockchain	With Blockchain
Days, weeks, months of idle time Human-to-human activity has to be coordinated	Immediate processing Decisions are made immediately after input data
All decisions made by humans	Decisions are an automated process
Many people involved, only human decision-makers, error-prone	Massively reduced number of people Reduction of interfaces and media disruption Increased process resilience and robustness
Difficult to audit, it's very costly to document each decision and the underlying data	Easy to audit, complete audit trail of every process step
Farmer receives payment > 3 months after seasons end	Farmer received mid-season pay-out

Next

No insight in decisions No clarity in weather data	Full transparency Stakeholders can always check state of a policy
Traditional capital investors in insurance products	Non-traditional capital investors in insurance products – Staking becomes possible



The screenshot shows the top portion of a news article on the Cointelegraph website. At the top right, the Etherisc logo is displayed. Below it, a navigation bar includes the Cointelegraph logo and the tagline 'The future of money', along with a list of cryptocurrencies: BTC (\$66,634, +6.28%), ETH (\$4,041, +6.15%), XRP (\$1.14, +5.37%), BCH (\$639, +5.51%), and EOS (\$4.63, -4.35%). The article is by Turner Wright, dated July 21, 2021. The headline reads 'Etherisc onboards 17K Kenyan farmers covered by blockchain-based crop insurance'. A sub-headline states: 'The project said it would be paying roughly 6,000 farmers for crops adversely affected by climate change before the end of the season.' Below the text is a video player with 3626 total views and 7 total shares, a 'Listen to article' button, and a 2:10 duration. The video thumbnail shows two men in suits standing in a field of golden, glowing digital blocks representing a blockchain, with a truck in the background.

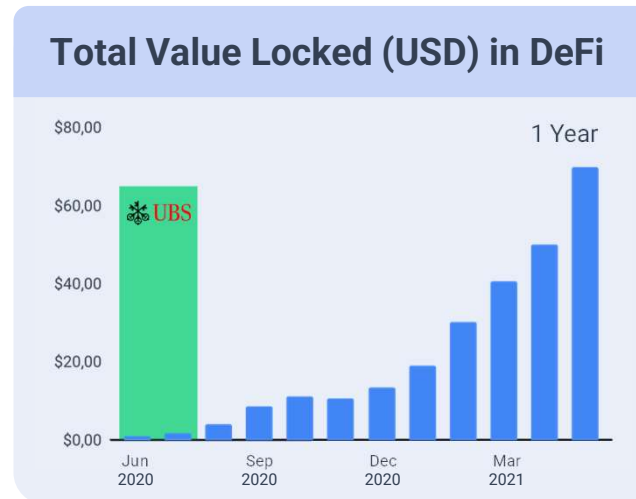
Insurance and DeFi



DeFi = Decentralized Finance

- Stablecoins (DAI, Tether)
- Lending/Borrowing
- Decentralized Exchanges
- Derivatives
- Smart Contract Insurance

Total Value Locked (USD) in DeFi



Smart contracts automatically settle complex financial products





Thank you!



Etherisc Impact B.V.



etherisc_community



@etherisc



etherisc.com



michiel@etherisc.com

