Blockchain Technology for Inclusive Finance

Can it add value?

RISKebiz
Inclusive Finance Blockchain Solutions

Michiel Berende
michiel@riskebiz.com

Kevin Day
kevin@riskebiz.com

Discussion topics

1. **What is blockchain technology?**
2. **Why is blockchain interesting for inclusive finance?**
3. **Some examples of IoT and blockchain**
4. **Putting it all together: the blockchain based risk pool**

RISKebiz
Inclusive Finance Blockchain Solutions

We use blockchain based technologies to address challenges typical for inclusive finance

Our services

1. Consultancy
2. Blockchain technology development (smart contracts, tokens, financial messaging, bots)
3. Project management & implementation services
4. Internet of Things Lab

Michiel Berende
Co-Founder
RISKebiz Inclusive Finance Blockchain Solutions B.V.

Kevin Day
Co-Founder
RISKebiz Inclusive Finance Blockchain Solutions B.V.

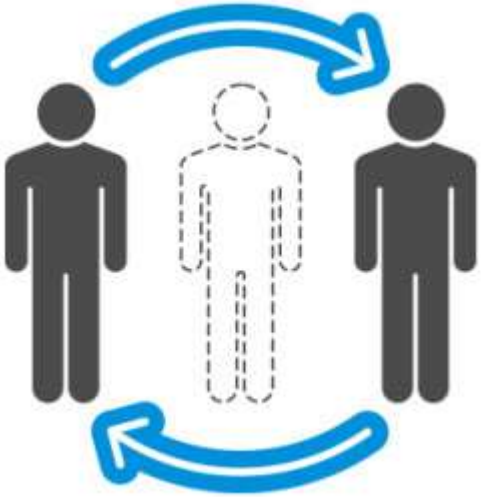
What is blockchain technology?

- **P2P** – enables person to person transfer of **digital assets** without intermediary or middleman i.e. bank
- **Decentralized** – no centralized authority
- **Bitcoin** – first example of blockchain technology, and by far the most widely used and tested.

Bitcoin – "Magic Internet Money"

Digital Assets can be any type of binary file like images, text and of course bitcoin.

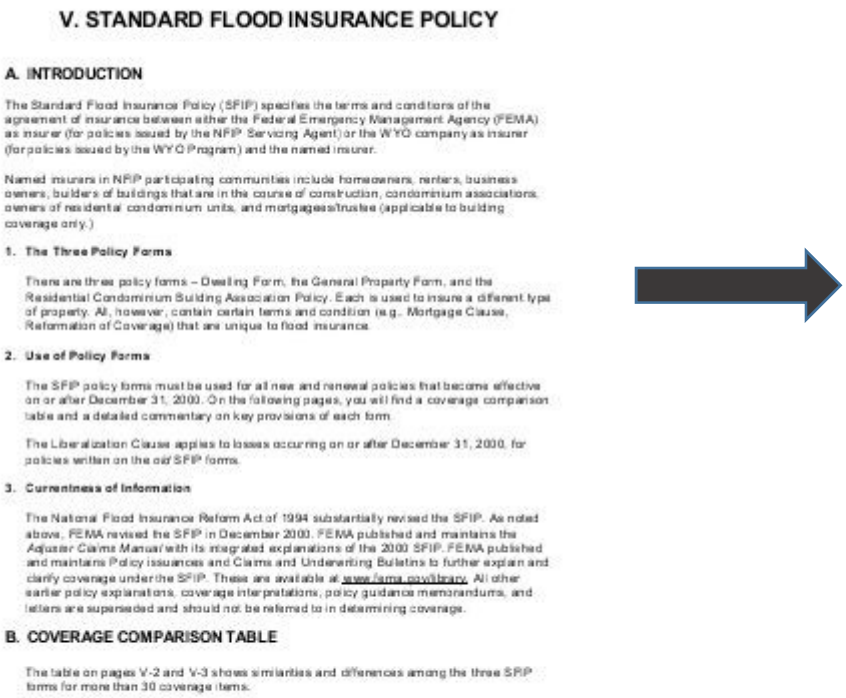
Disintermediation



Decentralization enables disintermediation.

The middleman (bank, transfer agent, broker) is no longer required.

Blockchain technology will disrupt the market.



V. STANDARD FLOOD INSURANCE POLICY

A. INTRODUCTION

The Standard Flood Insurance Policy (SFIP) 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 insurers 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/trustee (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 condition (e.g., Mortgage Clause, Reformation of Coverage) that are unique to flood insurance.

2. Use of Policy Forms

The SFIP policy forms must be used for all new and renewal policies that become effective on or after December 31, 2000. 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, 2000, for policies written on the old SFIP forms.

3. Currentness of Information

The National Flood Insurance Reform Act of 1994 substantially revised the SFIP. As noted above, FEMA revised the SFIP in December 2000. FEMA published and maintains the *Adjuster Claims Manual* with its integrated explanations of the 2000 SFIP. FEMA published and maintains Policy Issuances and Claims and Underwriting Bulletins to further explain and clarify coverage under the SFIP. These are available at www.fema.gov/library. 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 SFIP 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 [label="%s" % (nodename, label),
   if isinstance(ast[1], str):
      if ast[1].strip():
         print '= %s"];' % ast[1]
      else:
         print '"]'
   else:
      print '"];'
      children = []
      for  in n, childenumerate(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.

Why is blockchain interesting to microinsurance?

- **Smart contracts well suited to simplicity of many microinsurance risks:**
  - **Easy to underwrite and adjust;**
  - **Small premiums and claim amounts;**
  - **High volume transactions.**
- **Addresses unique challenges like moral hazard.**
- **Technology developed has applications in more traditional markets for insurers.**
- **Open up new markets (blue ocean of opportunities).**

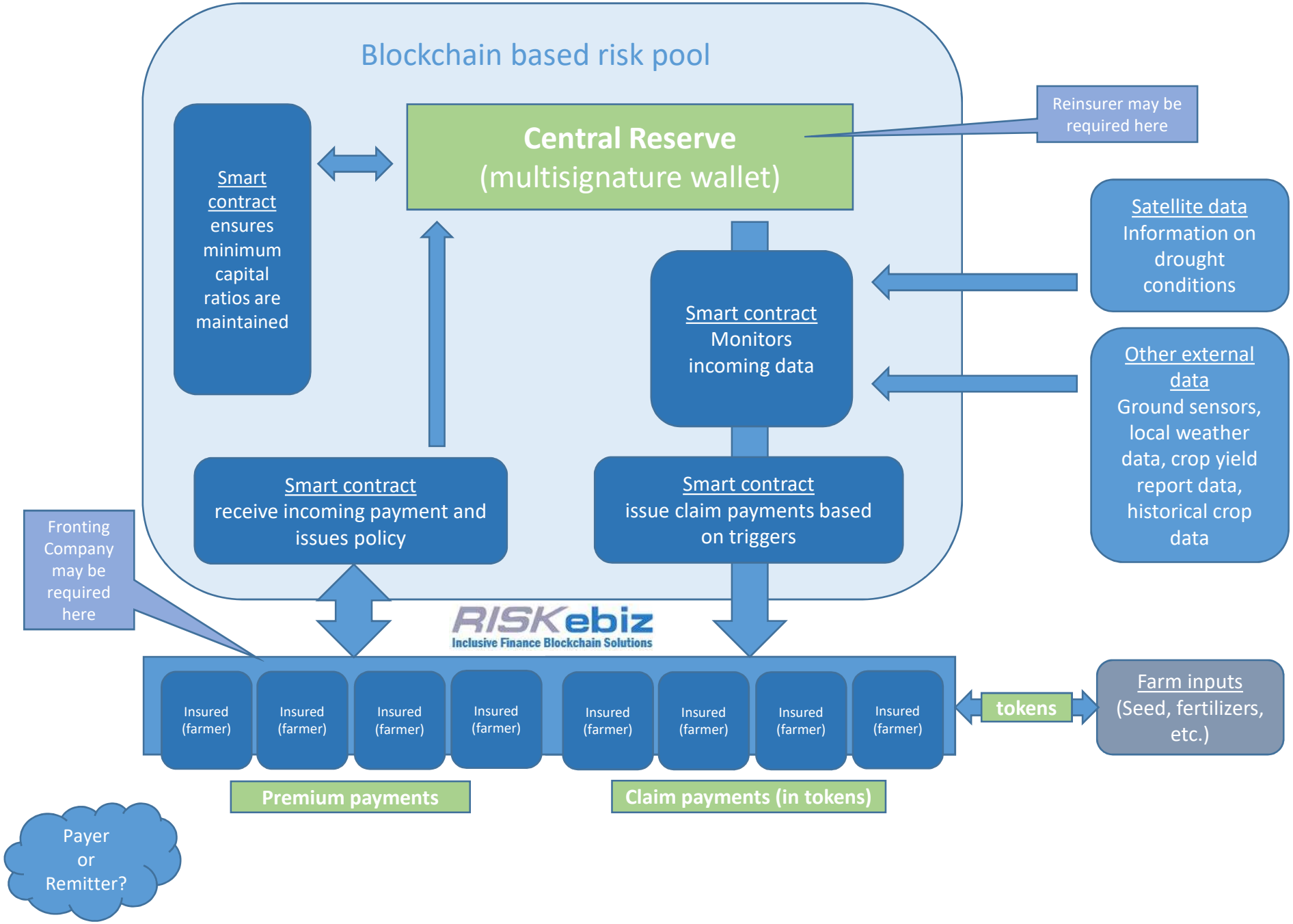
Internet of Things

- **Agricultural applications – soil moisture sensors, irrigation;**
- **Industrial automation;**
- **Drones;**

Solar powered soil sensor relaying data.

Cool example of IoT in action

Vayu drones in Madagascar delivering medical samples from a remote village.


Blockchain based risk pool
Central Reserve
(multisignature wallet)
Reinsurer may be required here
Smart contract ensures minimum capital ratios are maintained
Smart contract Monitors incoming data
Satellite data Information on drought conditions
Other external data Ground sensors, local weather data, crop yield report data, historical crop data
Smart contract receive incoming payment and issues policy
Smart contract issue claim payments based on triggers
Fronting Company may be required here
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Insured (farmer)
tokens
Farm inputs (Seed, fertilizers, etc.)
Premium payments
Claim payments (in tokens)
Payer or Remitter?

Questions & Discussion

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