

Farmer Digital Identity & Data ownership

FAO Digital Innovation Dialogue
02 March 2020
Rome





UN Human Rights
Council Chamber,
Geneva



Puvan Selvanathan



John Ruggie



BHR Forum
United Nations HQ
Geneva

About this Dialogue



Farmer Digital Identity

Any attempt to apply digitization to agriculture will eventually raise the question on **how to relate with the identity** of the farmer.

This Dialogue will first discuss the following questions:

- Why would we want to give all smallholder farmers a **digital identity**?
- What are the **costs and benefits**?
- Who would be the digital identity **provider**?

→ Farmers are People
→ Data is Property
→ Human, Development, Planetary Rights
→ Value is Transactional

Data ownership

Social networks made mistakes by compromising the data of their users, this is an indication that there is still a long way to go in data ownership and data privacy. Certainly, we do not want to **repeat the same mistakes** in agriculture. We need to respect and protect the ownership of user's data. This starts with the **identity data, followed by the farm business** data.

This Dialogue will then discuss the following questions:

- How to understand **data ownership in the agriculture** sector?
- What is the **value** of this data?
- How to **protect farmers' ownership** over the data?
- How does **blockchain** fit into this context and what are the key legal challenges?

Defining Digital ID

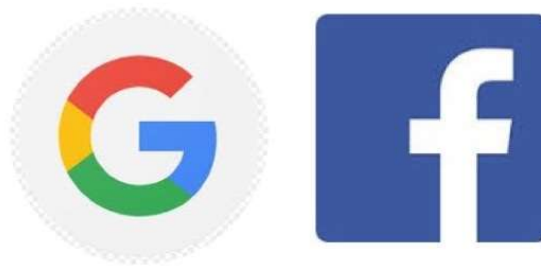
Components of Identity

IDs for Political Use



Birth Certificate, Identity Card
Driving License, Passport

IDs for Social Use



IP, URL, Email, Login, "Friends"

IDs for Economic Use



Cash, Credit

Political ID \neq Social ID \neq Economic ID

Defining Digital ID



The Club Owns the Card



I am a member of Germany, or the US, or Malaysia
I am a member of HSBC, or Visa, or Apple, or Catholicism

My IDs validate that I follow the rules laid down by my club.

If I don't behave according to the rules, they can blacklist or expel me.

I pay dues to each club to stay a member. The clubs provide me services.

I was born into clubs (citizenship, religion) because my parents are members.

I joined clubs when I could afford it (finance, credit, banks)

I was invited to clubs and have secret passwords (Facebook, Apple)

Up to now the only
way to issue, control
and recognise ID was
using the 'club' model.

There was no other
system.

We are used to this.

ID today is a cluster of
membership attributes.

Control \neq Ownership

You only have a right to property if you own it.
Your identity is not your property. You do not own it.

'Person-First' Identity



1. Technology lets people create and manage their own identity.
2. Identities can be verified without a central authority.
3. The nature of ID has changed.
4. ID is not an attestation of how a club defines you.
5. Imagine Agriculture was invented after the Internet.

 Farmer digital ID would be 'person-first'.

Bluenumber Foundation

Identity.  Yourself.

<https://www.bluenumberfoundation.org>

What Bluenumber Does



We Make Supply Chains Transparent

We make Farmers visible so they earn more.
We show Consumers both who and where their food comes from.

We Identify Slavery

We can certify slave-free conditions.
We independently verify workers in factories, mines or farms.

We Measure Sustainability

We score equity, living incomes and livelihoods.
We help companies and governments make better decisions with data.

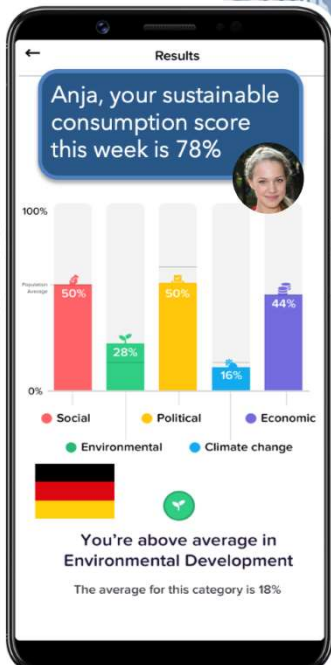
We Open New Markets

We put 'first smartphone' users the map.
We are a channel for digital services providers.
We let new consumers monetize their preferences.

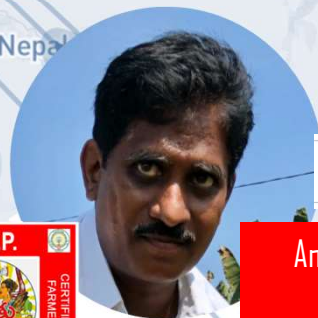
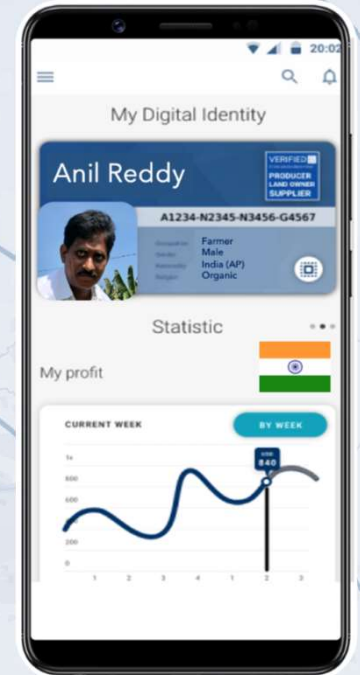
Anja Ritter
Sustainable Consumer



Bluenumber Reveals Farmers and Informs Consumers



- ✓ We verify that Anja and Anil are real.
- ✓ We show that Anil is an organic farmer.
- ✓ We enable Anja to choose safe food.
- ✓ We reveal the supply chain that connects them.
- ✓ We enable Anja and Anil to share data about their practices, preferences and behavior.
- ✓ We let them monetize data they generate and share.



Anil Reddy
Organic Farmer



Bluenumber Identifies Workers to Avoid Slavery

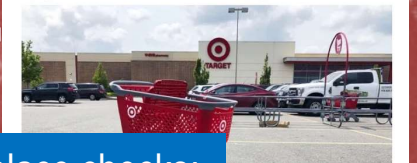
C3504-M4103-O6424-M5132



SLAVE FREE
NO CHILD LABOUR
ETHICAL WORKPLACE

NGO's softly-softly tactics tackle labor abuses at Malaysia factories

Transparentem didn't rush to expose abuses at five factories and shame their western customers - instead it asked the companies to work with the factories to fix the problems



BlueMark™ Certification Standard - TraceBlue: Slave-Free, No Child Labour, Ethical Workplace checks:
(1) Are your operations LEGAL, (2) Are your actions LEGITIMATE, (3) Do your workers have LIBERTY?

THE UNFREE

Forced Labor Is the Backbone of the World's Electronics Industry

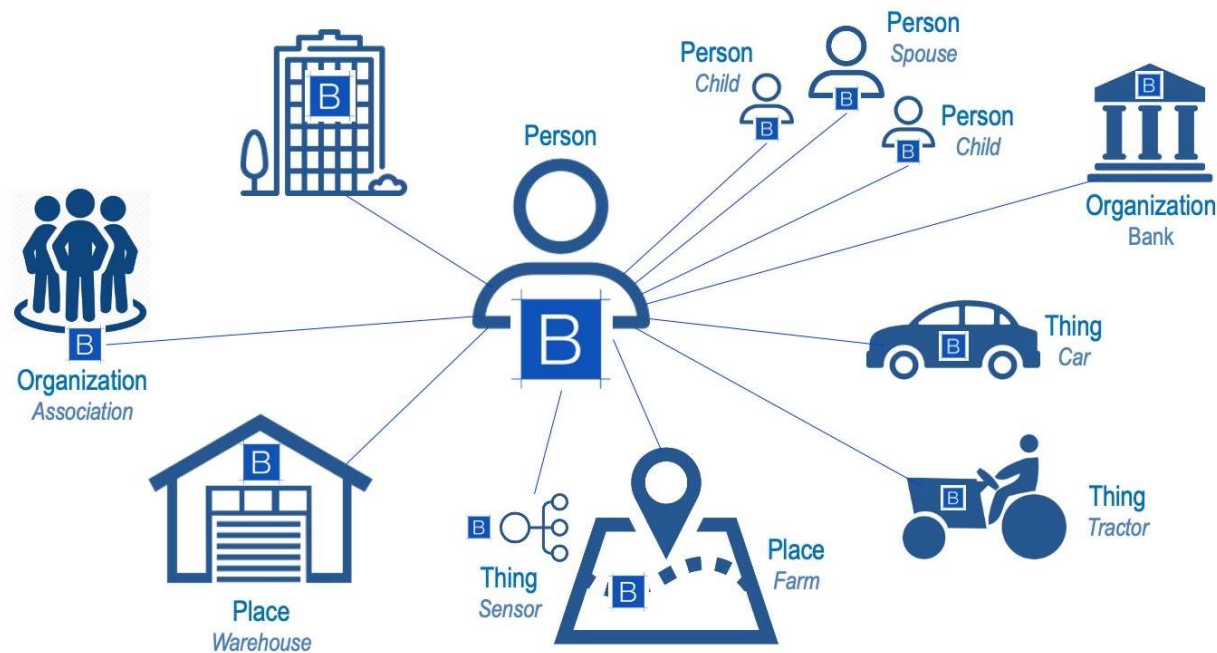
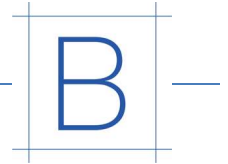
Poor people around the world are streaming into Malaysia in search of factory work. Once they arrive, they often find only hardship.

- | | |
|--|---|
| 1 | 2 |
| Respect the Human Rights of Migrant Workers in Japan | Provide Ethical In-Flight Meals using Bluenumber |
| 3 | 4 |
| Prevent the Use of Airplanes in Human Trafficking | Eradicate Corruption

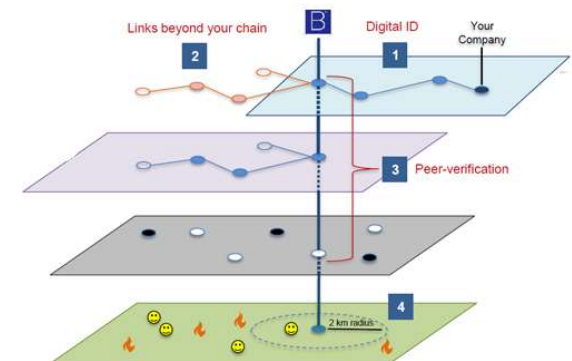
Inspiration of JAPAN |

Inspiration of JAPAN

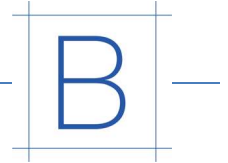
B#s are Unique Digital IDs



- Unique Code** for Persons, Places, Organizations and Things
- Peer-Verifiable** Data
- B#** is authentic starting 'block' for blockchain
- Primary Key** to link different datasets



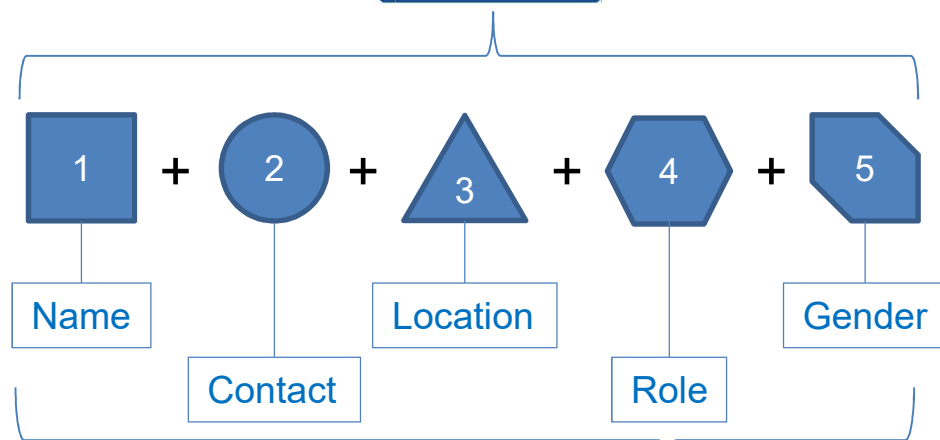
Every B# is a starting a block for a chain



We verify each block in a blockchain →



- All B#s are unique. **No duplications.**
- We **verify by triangulating** the same entity in independent datasets.
- B# verifies that a Person, Place, Organization or Thing **truly exists.**
- **A B# is a block of verified data.**
- B#s enable trust in the data in a blockchain.



Blockchain of B#s means every transaction is between verified Persons, Places, Organizations or Things



I use my B# to package information about my practices. I share the information with my customers to build trust and generate additional income.

I use my B# to share and build trust in the data I create.

We give valuable data away for free.

Consumers and farmers can use B# to (i) package data about preferences and practices (e.g. for organic) and (ii) push that data into a marketplace.

Consumers can 'identify with' the farm and farmer. Villages, cooperatives and associations peer-verify practices and build trust between the parties.

Premiums can be shared between consumers and farmers for the information shared. Consumers are validated for their support of sustainability and farmer income goes up.

History of preferences, payments and other data can be shared with banks, healthcare and insurance providers. They reduce risk so can offer both consumers and farmers preferential rates for services.

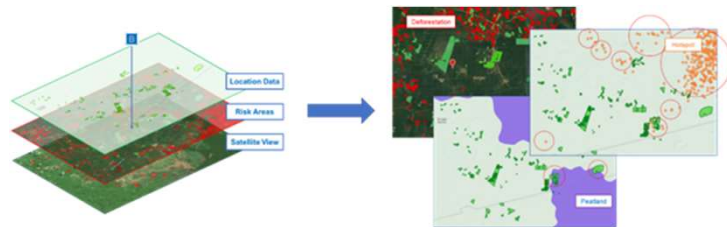
Data is not perishable, so farmers and consumers earn every time data is re-shared and updated.

NB – This is not 'personal data' such as health records. This is data people generate about practices, preferences and behavior to bolster claims and boost trust in B#-verified people from B#-verified places.

B bluenumber



B2B Digital ID-based Services

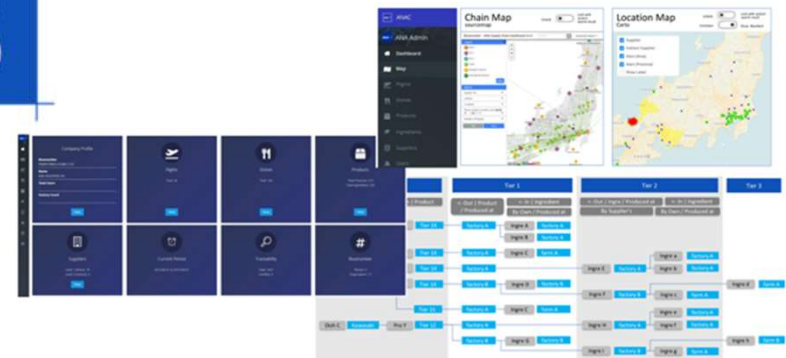


Environmental Risk Assessment (ERA) reports use B#s to **pinpoint environmental risk** for specific people or places to evidence sustainable practice.

BlueMark is our USTPO-registered Certification Mark to **validate sustainability claims** a company makes about their chain.



BlueBox is a **plug-and-play Productivity Tracking** suite of modular Software and Hardware to record key process data to improve operational efficiency.



Supplier Management is a **custom ERP** to trace the supply chain of a company - all raw ingredients, all sources, and all combinations within a product.

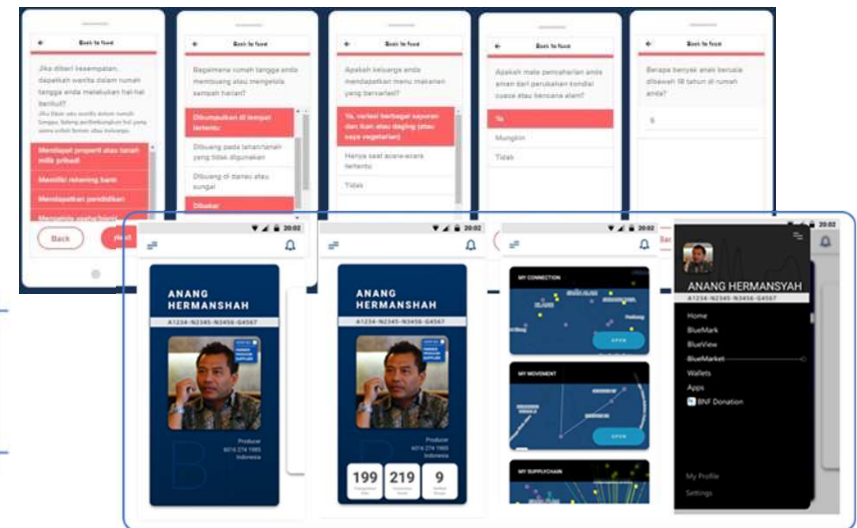
B2C Digital ID-based Services



SDG Scorecard beneficiary-centric survey and analysis per B# holder on UN framework.



BlueMark is our
USTPO-registered
Certification Mark to
verify a B# person is
real with verifiable
credentials.



B# App enables personal data management and exchange. It allows individuals to create B#IDs, be paid for sharing information, visualize their personal supply chains (i.e. know where what they buy comes from).

SDGs for Farmer Rights and Welfare



BENEFICIARY-CENTRIC SURVEY AND ANALYSIS PER B# HOLDER ON UN FRAMEWORK



Bluenumber helps companies (1) show their sustainability and human rights standards in providing **decent work**, (2) be recognized for **improving farmers' livelihoods** and (3) set a benchmark for **farmer engagement**.

The SDG Scorecard for your workforce:

- ✓ Gathers **direct feedback** from individual farmers
- ✓ Uses a bottom up approach for **3rd party verification** and **anonymity in grievance reporting**
- ✓ Is a standard that can be applied to crop sector to measure the **social impact created by businesses**
- ✓ Can change the narrative to **farmer perspectives** and the impact on their lives, as well as **identify the areas for improvement**

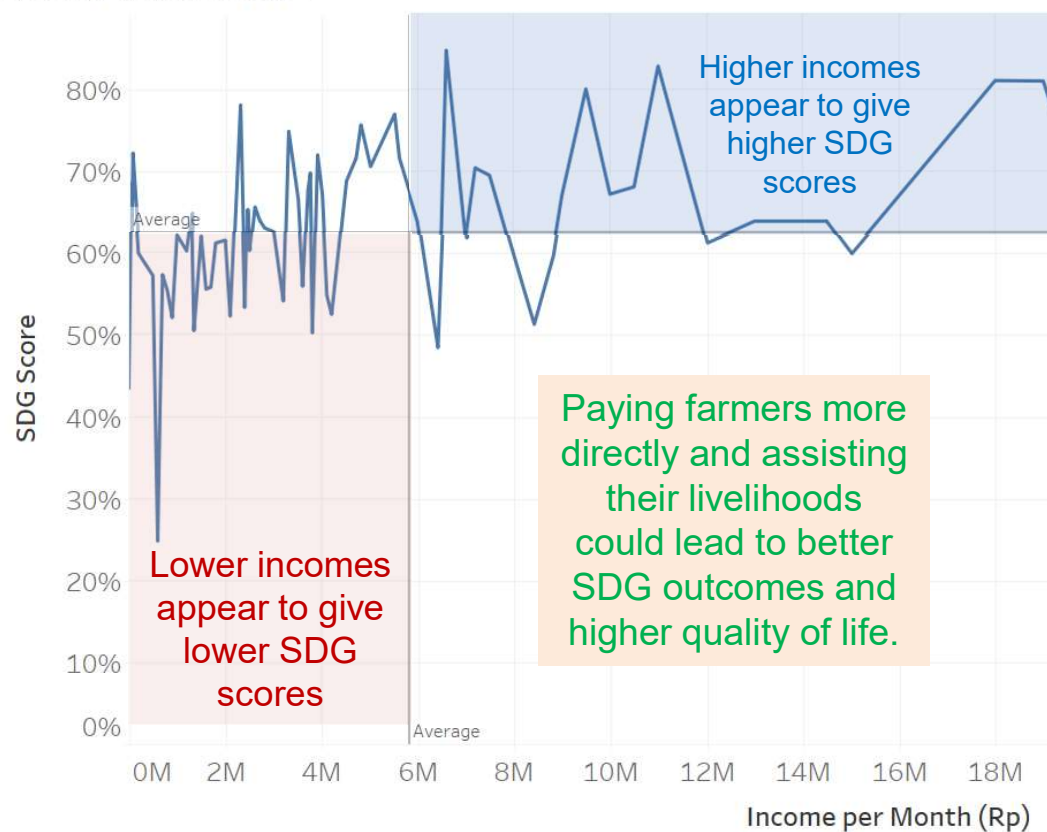
Use Case: SDG Scorecards



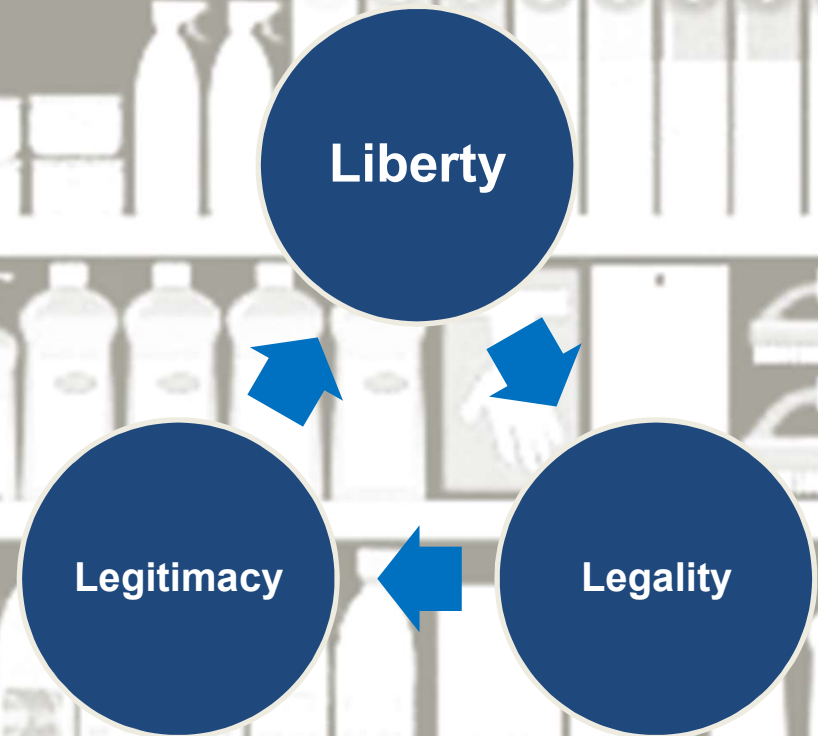
Directly Paying SDG Farmers (Jambi, Indonesia)



Income vs SDG Score



Kecamatan Merangin	Kecamatan Kumpeh Ulu
157 (certified) Farmers	90 (uncertified) Farmers
Desa Mekar Jaya	Desa Ramin
278,140.98 IDR	230,863 IDR
paid per Farmer over 6 Weeks	paid per Farmer over 4 Weeks



BlueMark™

- World's 1st Slave-Free Certification
- Registration filed US Patent & Trade Office (2016)
- Introduced in Tokyo (2017)
- Commercial use (2019)