Center for Analytics Research & Education

APPALACHIAN STATE UNIVERSITY®

WALKER COLLEGE OF BUSINESS

Honey, Trust and Rural Development

Blockchain technology for smallholder honey authenticity

Presented by Max A. S. Rünzel

Apimondia, Montreal, 8-12 September 2019

It is a matter of…

Trust

Process Based Trust

Institution Based Trust

Characteristic Based Trust

Creation of trust (Mayer et al., 1995)

Trust

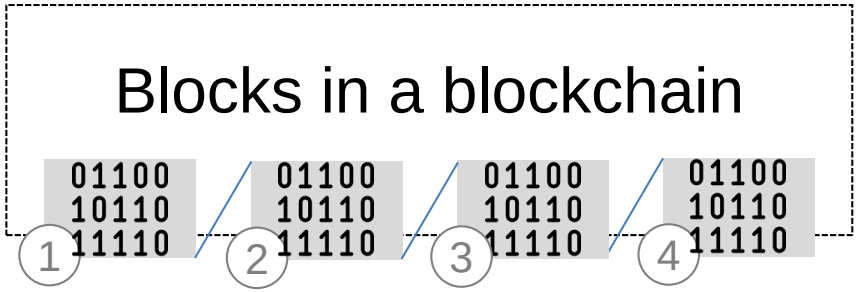
Trust applied

Value congruence is understood as the match of values held by consumers with the values projected by a company or entity (Cazier et al., 2006).

	Fairtrade (coffee; retail)	**Geographic labeling** (food; retail)	**Organic honey** (bulk)	**Varietal honey** (honeydew; retail)	**Verifiable pure honey** (retail)
Price Premiums	10-27%	21%	7%	27%	>50%

Sources: (Pelsmacker et al., 2015; Deselnicu et al., 2013; National Honey Board, 2019; European Commission, 2017; Cetingulec, 2017)

Expanding the parameter of trust

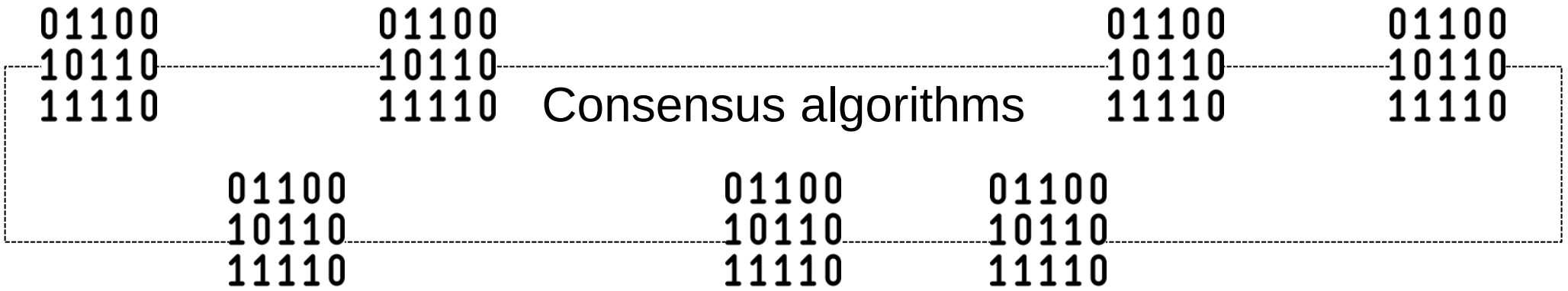


write once-append only

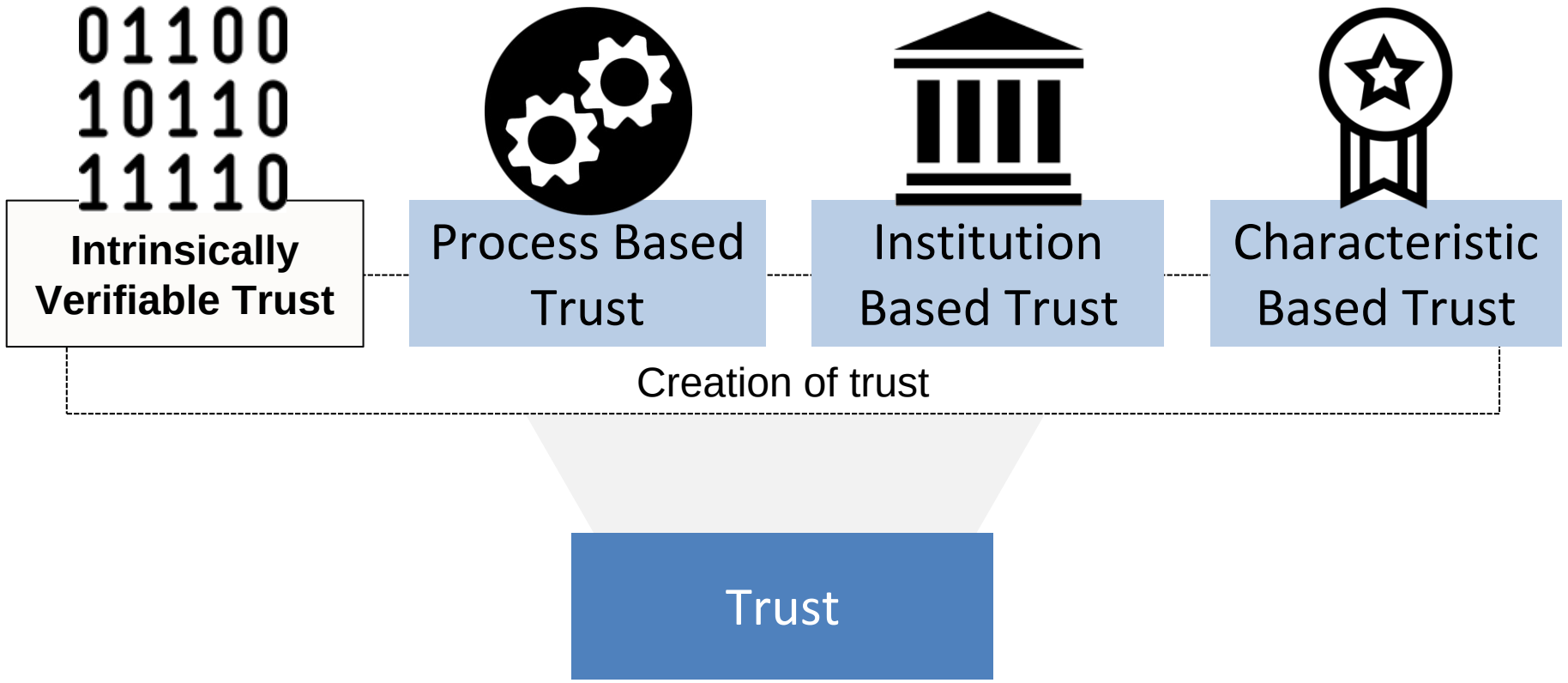
cryptographically secure

distributed

decentralised



Intrinsically verifiable trust



Adding value to beekeeping through data collection and analytics

Record keeping for better operations

Practice Sharing for collaboration

Standardisation for scalability

Beekeepers, their associations and researchers

Reinforcing accountability to access markets

1 Record keeping

2 Transparency

3 Accountability

4 Access to markets

Local Sphere

Regional Sphere

International Sphere

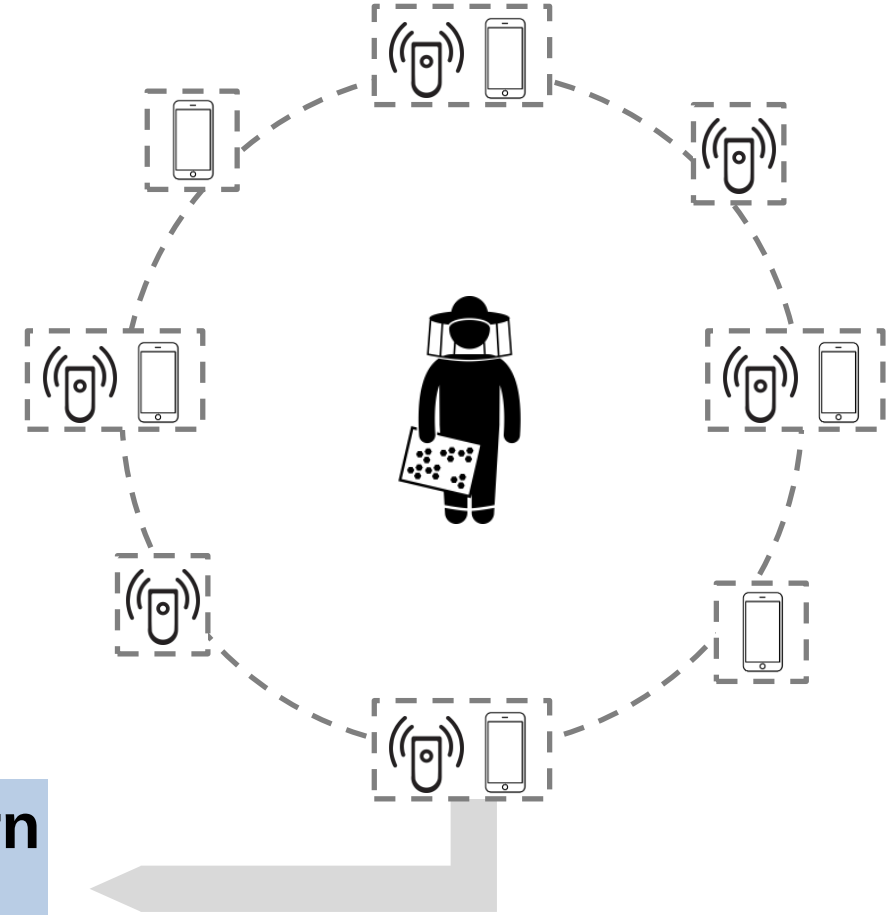
Means to test

HiveTracks
KNOW YOUR BEES

150K Hives

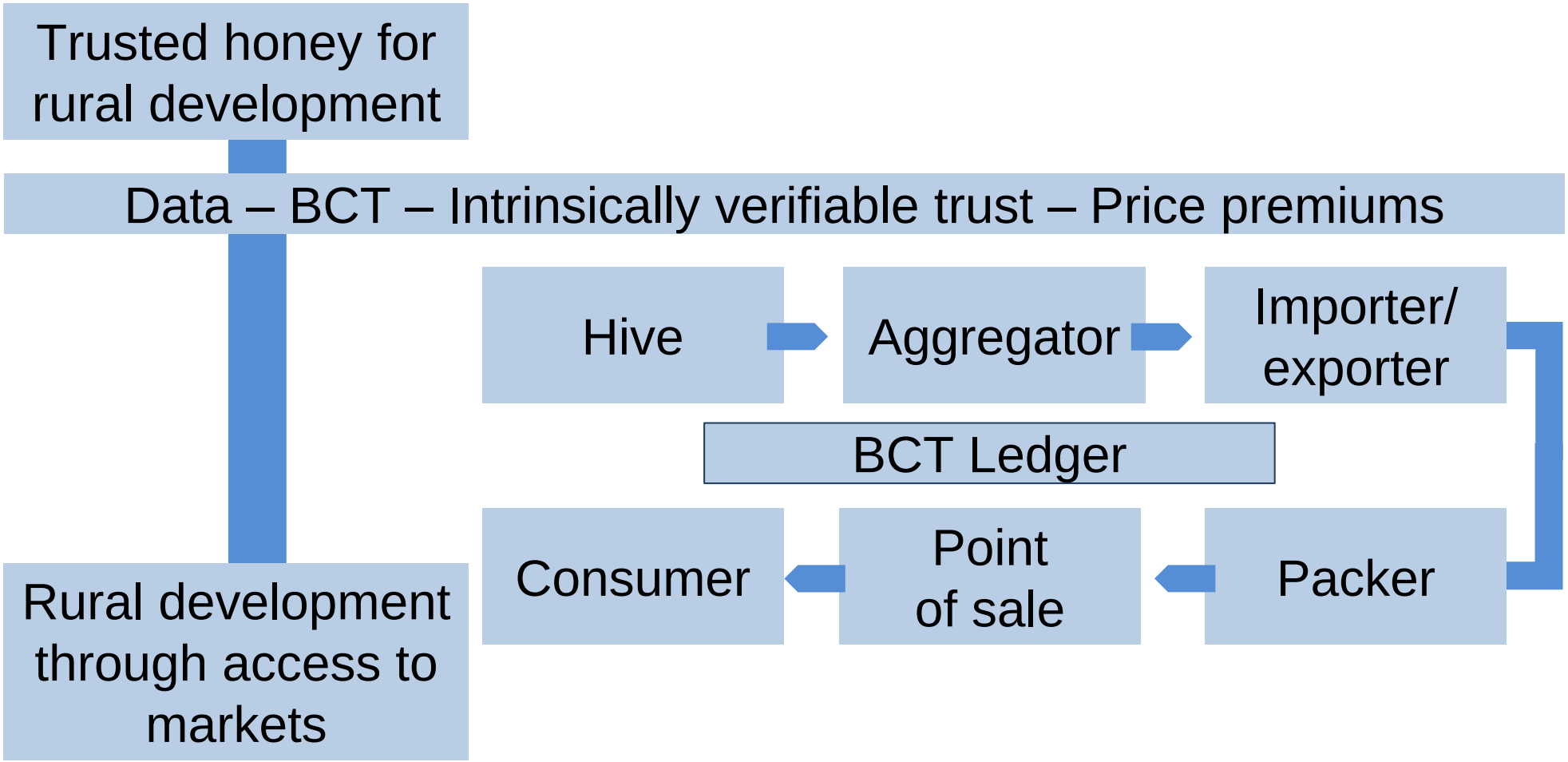
32K+ Users

150+ Countries

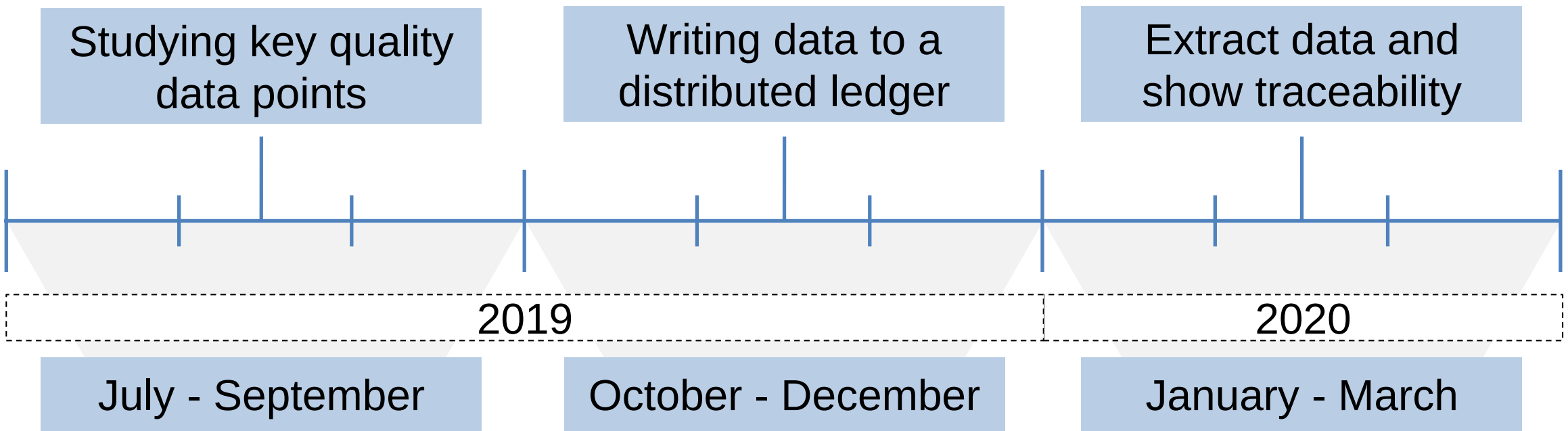


Region-, season- and climate-specific pattern recognition to predict beekeeping practices

Completing the picture



The way ahead



To take home

In using the blockchain to store, share and analyze verifiable data, it would be important to **balance** the benefits from **sharing** with the necessary **privacy** protection.

Data-driven beekeeping would not just enhance everyday operations, but, backed by BCT, offer traceability solutions that **enable smallholder beekeepers** to market their honey by proving the origin, quality and integrity of their products.

Finally, enabling and empowering smallholder beekeepers to take part in the **honey value chain** would unlock the development potential of rural areas while **strengthening the biodiversity and economic resilience**.