



Convergence.tech

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## Making A difference To The Mongolian Cashmere Value Chain

Imagine a world where everything you buy will inevitably have a positive impact on the developing world, such as:

- helping to uplift the poor and marginalized
- aid in fighting corruption
- insurance of animal welfare
- guarantees of ethical sourcing

These positive moves are not just a possibility. They are happening and unfolding at an exponential rate thanks to 'Convergence.tech' - a forward-thinking Canadian company.

Convergence provides comprehensive Advisory and Product Development services, with a primary focus on blockchain technology and Digital ID solutions. Based in Toronto, Canada, it operates globally with active projects in 14 different cities worldwide and working with government bodies, humanitarian agencies, and corporations and recently launched an ambitious pilot project in Mongolia to help make these positive impacts available to all buyers of high quality, beautiful Mongolian cashmere. The goal was to test a connected and sustainable cashmere value chain using Backbone, an Ethereum-based traceability platform.

You may be wondering, 'Why Cashmere'? Cashmere is naturally scarce – it's quality and quantity limited by climate and geography. This effort is all part of the United Nations Development Programme's Sustainable Cashmere Project.

Throughout the project, Convergence interacted with dozens of local herders, various government ministries, cooperatives, processing facilities, certification partners, fashion houses and brands, intermediaries, and other internal participants and stakeholders.

The project is an enormous success with significant quantities of cashmere getting tracked across three provinces in northeastern Mongolia, from origin (shearing at

herder household) to destination (a processing facility in Ulaanbaatar). The pilot is so popular that it is extended to enable the training of more local partners who will track 150 bales of cashmere totaling over 5 tonnes.

## Why Mongolian Cashmere?

It is essential to know about some of the problems facing cashmere production in this remote part of the world to understand what raised the initial interest in this project:

- Herders face income instability and uncertainty and are often indebted to intermediaries for cash advances
- There's a lack of agreement on sustainability and chain of custody processes
- Grazing lands are rapidly degrading, threatening the viability of the entire industry

In addition to the above challenges facing Mongolian cashmere, there's a need for more sustainability and traceability in the sector due to several factors:

- The decreasing quality of cashmere in Mongolia, due in part to climate change
- A rise in ethical and sustainable sourcing, from both consumers and businesses
- Demands for proof of sustainability claims

**Chami Akmeemana, CEO, Convergence.tech** said, "The nomadic community is one of immense pride but one with a volatile and unstable income. Leveraging blockchain technology within the transformation of the cashmere industry can provide numerous benefits for Mongolian herders, buyers, and sellers alike."

## How The Pilot Worked

The Mongolian pilot employed easy to use technology, to allow farmers to track their cashmere. *Convergence* developed an intuitive mobile application for Android devices, which enables farmers to register their cashmere bales with ease. Along with this, bales and packing slips get High-frequency RFID tags attached to them.

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This technology helped to mitigate risks by eradicating the traditional manual processes that were time-consuming and prone to human error.

*Convergence.tech's* Ethereum blockchain solution, *Backbone*, provides users with many significant benefits:

- Complete visibility of the critical path through the deployment of trusted and accurate data, allowing buyers to identify the source of their cashmere
- The connection of sustainability and environmental impact data to enable ethical raw cashmere sourcing decisions to get made with certainty
- Effective creation of a market that can help to connect buyers interested in sustainability, with sellers who follow sustainable practices
- Creation of a channel for targeted incentivization schemes to reward herders for following sustainable practices

The data produced by the cashmere project will be invaluable, especially for luxury apparel companies keen on sourcing sustainable cashmere.

- The Applications are Endless

While the Mongolian pilot focused on cashmere, the underlying technology can get applied to a broad spectrum of supply chain logistics systems. *Backbone* can offer the visibility and traceability required to provide real time insights into the movement of goods throughout the critical path.

### ***Convergence.tech* Are A Trusted U.N. Partner**

As an organization, *Convergence* is focused on using blockchain technology to make the world a better place and are especially interested in development work in emerging markets. With this goal in mind, *Convergence* has partnered with the *United Nations Development Program*.

Our UNDP partnership spans the cashmere pilot in Mongolia, and the police force work in Afghanistan. What's more, we are now an official partner of a UN climate change initiative. In collaboration with other parties, we will be involved in generating, assessing, and disseminating information to guide climate action.

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*Convergence.tech* has extensive consultancy experience in advising, developing, and implementing leading technology solutions and have provided digital readiness solutions on a global scale. They are committed to addressing humanitarian challenges worldwide, wherever they exist, even in conflict zones to include:

- A mission in Afghanistan to investigate and identify opportunities to leverage technology within the existing police payroll systems and processes.
  - This operation required our interaction with numerous officers across many police districts in Kabul. We interviewed dozens of existing police officers and consulted various ministries such as the Ministry of Interior and the Ministry of Defense. The team also met with financial institutions and telecommunications providers and collaborated with members of relevant internal technical and non-technical teams.
- In India, we successfully developed a first blockchain-powered land registry for the state of Haryana.
  - Blockchain-powered land registries are of particular importance in the management of disputes relating to plot ownership rights in emerging market countries.
  - Technology, such as that provided by *Convergence.tech* delivers an exceptional level of transactional history. This accurate data not only assures landowners but also instills confidence into prospective buyers.

Subjective messaging such as those highlighted above and social media campaigns help raise awareness to illustrate the proven benefits of embracing revolutionary technologies. The trust gap between the herders on the ground in Mongolia and the buyer gets bridged, through complete transparency and visibility, which enables conscious buying and ethical consumerism.

To quote the words of *Søren Aabye Kierkegaard*; a Danish philosopher, theologian, poet, social critic and religious author who is widely considered to be the first existentialist philosopher: "It is the duty of the human understanding to understand that there are things which it cannot understand... It belongs to the imperfection of everything human that man can only attain his desire by passing through its opposite." Supporting cutting-edge sustainable technology like this is a way to build

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the world we want to see. It belongs to the imperfection of everything human that man can only attain his desire by passing through its opposite.” Supporting cutting-edge sustainable technology like this is a way to build the world we want to see.

In the current climate, cashmere pullovers are retailing at a significantly reduced price and are no longer considered to be a luxury item. Cashmere has become less exclusive and is now a more affordable commodity. Subsequently, the grasslands of Mongolia are paying the price. The social impact created by underpaid farmers and an opaque supply chain is also a source of concern. With alarm bells ringing worldwide, particularly in the fashion industry; we need to respond urgently. These threats illustrate a global challenge for rangeland management everywhere, so how do we develop systems that work for both people and our planet? *Convergence.tech* is committed to the cause and dedicated to making a difference; their diverse perspectives create a unique mix of heartfelt passion, expertise, and innovation to tackle these complex issues.

The beauty of their process is in their dedication to the people they work with on the ground. *Adam Lemmon* and *Erik Zvaigzne* spent six weeks of March and April 2019 in three North Eastern Mongolian rural provinces, training and certifying the goat herders. Adam and Erik not only hold a strong understanding of the technology they use, but also got trained in herding, animal husbandry, and welfare practices. These practices encourage sustainability since the livelihood of these nomadic goat herders gets intertwined with the health of the rangelands. As a result of interacting with this incredible technology, the herders ensured premium pricing, access to resources, the sustainability of their livelihood as well as market access and visibility into the supply chain. As a result, they gained a real potential to get offered a premium price for cashmere wool, something that can, and will, change their lives forever.

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*Adam Lemmon and Erik Zvaigzne, Convergence.tech, with the 'Mongolian, cashmere goat herders.'*

Adam and Erik introduced each herder to the technology one at a time. The herders got given Android cellular phones (near field communication) which generated an infectious amount of interest, curiosity, and enthusiasm. The herders can 'register' a bale using the mobile application and subsequently see a 'pin' on the map showing exactly where their cashmere got sourced. The origin cannot then get questioned, which is of enormous benefit to both the herders and the consumers. The cashmere market had been suffering from a lack of trust in its authenticity due to inadequate traceability. Now, the United Nations see the value of blockchain technology – as do the herders themselves. While on the ground, *Convergence* helped the registering and end-to-end tracking of 471kg of cashmere; from the origin to animal welfare-driven shearing at herder households, and on to a processing factory in Ulaanbaatar.

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## Our pilot solution...

### HF RFID Tags

- \* Identification of bales
- \* NFC cards
- \* Packing slips



### Mobile Phones

- \* Common mobile Android devices
- \* Onboard NFC capabilities



### Blockchain

- \* Ethereum blockchain / Blockscale backbone services
- \* Tamperproof store of data
- \* Transparent and trustworthy
- \* Permanent event history

This process connects buyers interested in sustainability with sellers who follow sustainable practices. The traceability of cashmere is transparent from the herder, all the way through to the end consumer as a result of utilizing Blockchain technology.

The growth of consumer digital apps adds dimension for the need for traceability and authenticity, with the more conscious consumer demanding real proof of ethically sourced products. Apps such as these, have the power to potentially disrupt the fashion industry by producing and distributing trusted ethical scores for brands with a simple swipe. These technologies, in turn, will add further pressure on companies to evidence a sustainable journey to market. The transparent nature of blockchain technology effortlessly tackles this challenge head-on.

This program will make the buyer feel empowered; they will have a quality product and will know for sure that it is ethically sourced. The benefits to bulk producers who buy into this incredible technology are infinite but to provide a little insight:

- Markets get opened up due to increases in the sourcing of sustainable cashmere

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- Brands can tell a story about their source providing proof of traceability and therefore increased profit margins.

*Convergence.tech* is passionate about supporting environmental projects and ensuring the implementation of ethical and sustainable climate chain processes.

We continue to chip away at the numerous challenges getting faced in our world today. Through working together, we will get to a time when we can look our children in the eyes and say that we are now heading towards a solution. The first step is for us all to embrace this revolutionary technology and ensure it goes from strength to strength.

We must all do our bit to help our Earth to heal, because if we don't, who will?

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