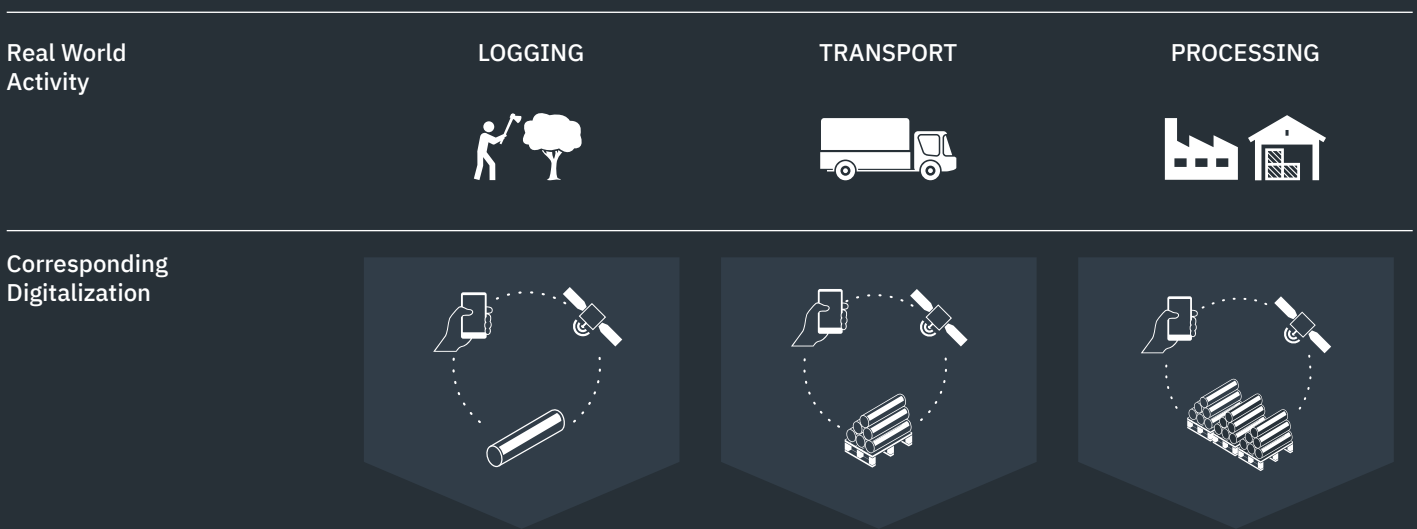
Insight from
MICHAEL FABING
IT Lead, Wood Tracking Protocol

Michael Fabing is a computer scientist living in Lima, Peru. Since 2018 he has led the technical development of the Wood Tracking Protocol (WTP). WTP provides a tool to document the work of participants of the wood processing chain in the Amazon region of Peru. The project combines a smartphone application with a digital platform that includes a gateway to a blockchain network. The tool is currently being tested in the field. It is the aim of the WTP team to collaborate with similar initiatives that try to increase traceability and transparency in the Peruvian forest industry. In that context interoperability of the WTP may play a crucial role in the future. WTP is a CLI use case supported by the Swiss Agency for Development and Cooperation.

Q: How is interoperability relevant within the work of WTP? What are the challenges in your view?

A: Interoperability is truly relevant for us since we rely on third party – mostly governmental – data. An objective of our application is to fight illegal logging. Therefore, we work closely with the government data that determines who may and who may not access our platform. Moreover, our platform should also be notified once forest authorities, or the police flag a convoy of wood as illegal. And, when forest authorities decide that a cer-

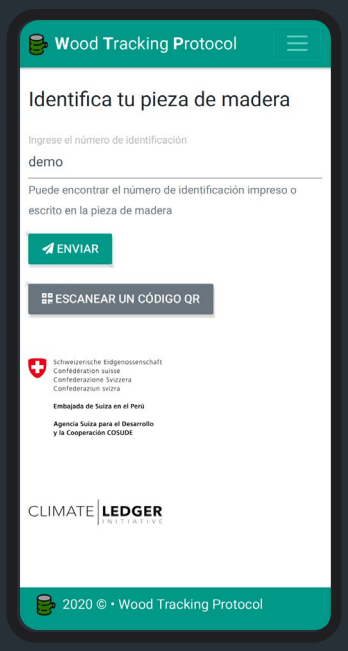
Concept of the WTP. Source: Wood Tracking Protocol



tain section of the forest should be protected, and any wood cutting should be strictly forbidden, our app should not only prevent the storage of any related data of the protected trees, but inform the wood cutter that this area has to be preserved at all cost, and even alert the local authorities to inform them about potential illegal logging. Interoperability with all stakeholders in the wood industry in Peru is particularly important to us.

Can you tell us something about the technical setup of WTP? And how do you address challenges around interoperability?

The WTP applies two different DLT approaches. We work with Ethereum to store simple data and to programme smart contracts which will automate the payment once the work by a predetermined woodworker was done and validated.
We consider InterPlanetary File Systems [IPFS] to store photos and more complex data. IPFS would be used for most of the data storage to lower the costs compared to the public network of Ethereum. To protect user privacy, some information is not stored on any blockchain or DLT network.
Private information such as telephone numbers, profile photos, personnel addresses are stored on a local database, to respect privacy law, and avoid problems such as doxing. To enable interoperability with third parties, WTP uses a combination of Restful API and GraphQL API. One of the issues that we encountered here in Peru is that the adoption of APIs is still limited.
Many of the institutions that deploy IT approaches in order to improve the traceability of Amazon wood simply don't have an API and rather work with Excel, or CSV files to download, or use SOAP, an XML-based protocol. The use of newer versions of modern Restful API that are standard for all mobile applications remains the exception. We partially support GraphQL API, but the requirements for a GraphQL server in Peru are still limited.



WTP smartphone application

What is the current status of WTP? What is planned for 2021?

We have built the smart phone application and an associated platform with a blockchain gateway. We are currently testing the app in various pilots in the field in the region of Madre de Dios, close to the Peruvian border with Brazil. Our goal is to have WTP officially recognized as a tool to meet the goals of forest laws, namely, to determine the origin of wood. We also see potential for engagement with non-state actors such as the FSC standard.
From a technical point of view, we plan to take the next step in 2021. Now, information is added to our platform manually via an app. In the future we would like to automate the process using IoT sensors such as RFID Technology to manage the entire flow of information.

WTP is focused on the Peruvian forest industry. Does this mean WTP will remain a domestic solution or do you see a potential for WTP to be applied beyond the borders of Peru?

Illegal logging represents a major burden for building a sustainable forest industry in Peru. That is why we decided to start with WTP in Peru. However, the approach we apply can easily be adopted to other jurisdictions as well. However, first we conclude the piloting phase and synthesize the relevant experiences for the further development of WTP. Only then we will discuss the next steps which will surely involve the possibility of expanding our scope beyond Peru.

Analyzing paper trails during the WTP Piloting Phase in Madre de Dios, Peru. Source: Wood Tracking Protocol.