Minexx Traceability Guide For 3TG Operators

February 2023

MINEXX'S TRACEABILITY FOR 3TG

Supply Chain Scope: Mine – Refinery/Smelter

February 2023

A. SCOPE AND GEOGRAPHY OF MINEXX ASSURANCE SERVICES

In the wake of a global appetite increase for technology and the challenges of securing responsible supply chains from artisanal and small-scale mines (ASM), Minexx decides to deploy and implement an Upstream Assurance Mechanism, that is backed by a digital blockchain traceability platform, that tracks minerals from pits/mine to smelter.

Minexx digital platform is availed and deployed on field level to support mine operators, exporters, organisations and governments in conflict affected and high-risk areas (CAHRA) meet their due diligence expectations by conducting any mine level monitoring and track the extracted minerals from mine site to smelter/refinery as determined by the

a. OECD due diligence guidance for responsible sourcing of minerals,
b. Second Edition of the Regional Certification Mechanism (RCM) of the International Conference on the Great Lakes Region (ICGLR);
c. RMI Responsible Minerals Assurance Process (RMAP)
d. Code of Risk-mitigation for ASM engaging in Formal Trade – CRAFT
e. Local laws of minerals producing countries
f. US Dodd – Frank Act
g. EU Conflict Minerals Regulations
h. Minexx's Supply Chain Standards and Procedures

Minexx assurance services are outsourced by mineral operators and also used during Minexx own trading activities. The non-fulfilment of the Minexx's supply chain standards results in the issuance of a non-conformance notice which recommends the designment from the concerned supply chains.

B. GUIDE FOR DIGITAL TRACEABILITY

Minexx Digital Traceability is a whole part of the Minexx's Supply Chains Procedures defined and built as per the OECD five steps due framework including:

1. Establish strong management systems
2. Identify and assess risks in the supply chain
3. Design and implement a strategy to respond to identified risks
4. Independent third-party audit of due diligence.
5. Report on supply chain due diligence

However, Minexx doesn't conduct any independent third-party audit on the supply chain that it supervises, to avoid any conflict of interest and maintain its services consistency.

The ultimate objective is to provide assurance that minerals – the supply chains of tin, tantalum, niobium, tungsten and gold and the respective derivatives of the listed minerals; received by smelters and refiners are:

1. produced from conflict free and validated mines
2. produced, handled, transported and traded by legally approved and recognised supply chain actors
3. not smuggled and contaminated with minerals from unknown origin

4. continuously supervised mines by Minexx and partners
5. tax compliant
6. delinked from any form of money laundering, bribes, corruption, fraud and any other malpractice
7. compliant with various audit requirements

The Minexx digital traceability is built based on the OECD guidance's recommendations on the chain of custody of designated minerals from CAHRAS; It satisfies the requirement of the Second Edition of the Manual of the Regional Certification Mechanism (RCM) of the International Conference on the Great Lakes Region (ICGLR); and also meets the audit standards of the Responsible Minerals Assurance Process (RMAP) of the Responsible Minerals Initiative (RMI).
The digital traceability collects real-time data through Minexx inhouse built systems supported by outsourced software providers; that allow the generation and reconciliation of key traceability data points and information along the supply chain, including

- assigning and scanning of QR/ID tag for each produced mineral bag/container
- scan QR records of mineral lots being moved at any given points (e.g.: production, processing, export)
- capturing the weight change and discrepancies at each supply chain step
- methodical, physical identification of all supply chain actors and their roles a
- collection of all export documents issued by minerals producing counties on each shipment lots
- tracking of miners' payment
- site assessment
- incident recording and follow up
- miners census

Use of Minexx Digital Traceability

- by Minexx own supply chains – where Minexx is buying minerals from
- other local operators – as independent due diligence service providers

C. BRIEF ON THE 3TG SUPPLY CHAIN

For any lot of minerals tracked by Minexx to leave the country of origin, an automatic tracking report (TR) is generated by Minexx digital system. The TR is as a reconciliation of mineral data records from an approved mine up to export. The supply chain is identified during the Minexx mine site assessment (MSA) before the deployment of any Minexx data recording tools.
The structure of the TR and linked business reflects the organisation of the daily extractive activities found at the mine.
The TR provides key information on various business steps of the supply chain including:

a) the origin of minerals,
b) any weight change after any cleaning or processing of any batch of minerals,
c) the lot's unique ID being traced,
d) the location of the mineral lot,
e) the time and date of data recorded,
f) supply chain steps,
g) specific identifier,
h) relevant transactions,
i) type of data,
j) user-defined information,
k) persons present at specific supply chain step.

It is important to note that in most 3TG mining context, mineral ores are extracted from a mine, washed and processed within the mine perimeter and transported to the first buyer outside the concession. Means of transport such as bicycles, motorcycles and vehicles are used to transport mineral concentrates. The first data recording happens within the mine perimeter, at pit level or main mine office; while the last data recording (within the country of origin) happens at export level. The diagram below illustrates the general business steps of the Minexx blockchain traceability.

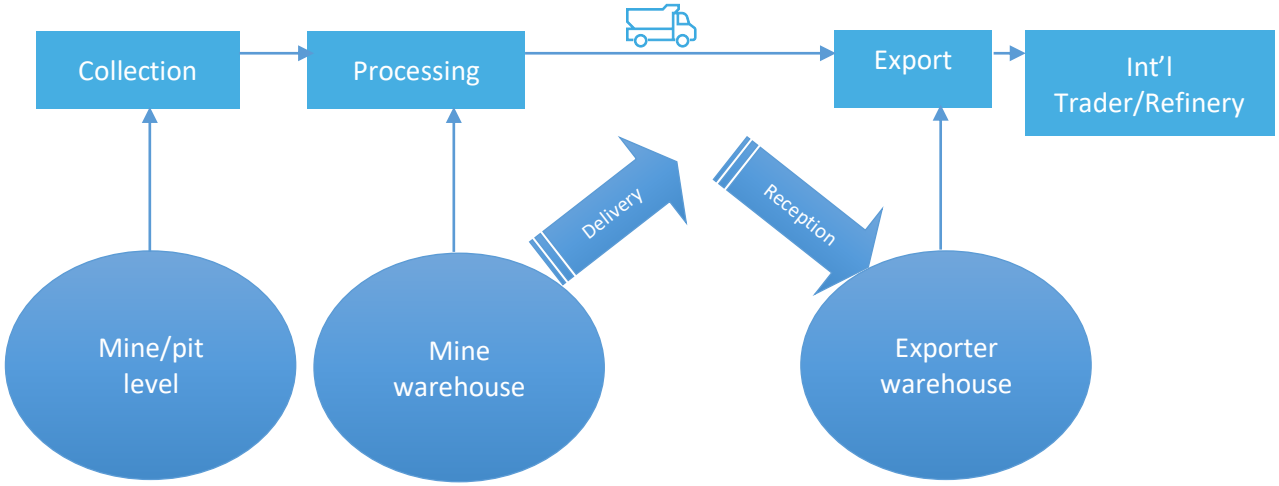
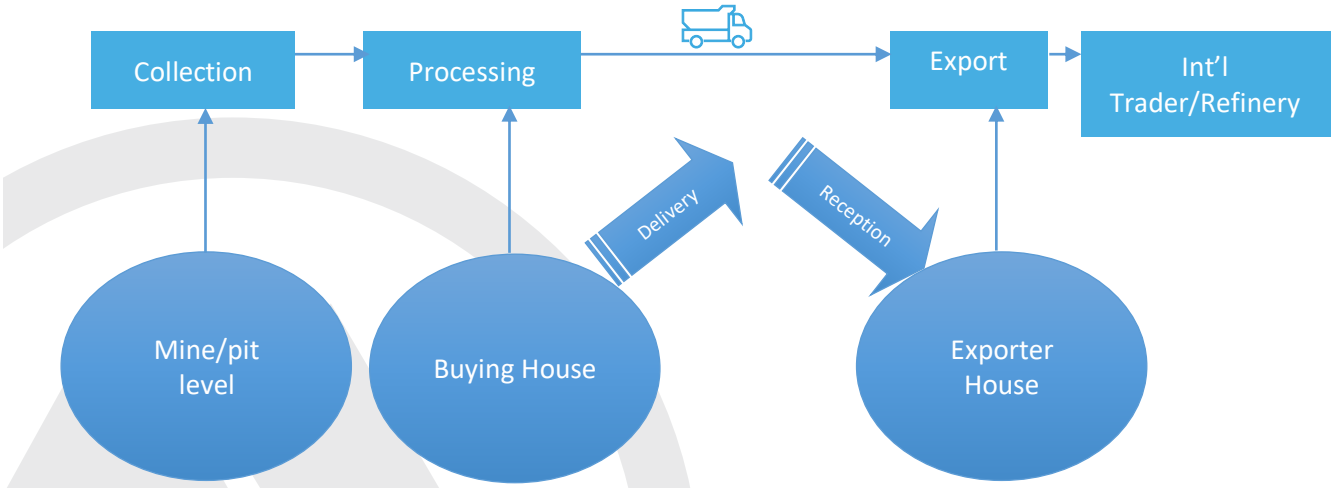


Image: Business steps of general traceability structure for 3Ts, showing where and when data is recorded and uploaded

The diagram below shows a general traceability structure for the gold supply chain.



The following traceability and blockchain equipment are used by Minexx:
Based on context and geography, Minexx adjusts the traceability steps to address supply chain's specific needs.

Images above illustrate how 3TG minerals are extracted and recorded at an artisanal mine in Ghana. Source: Minexx, 2022

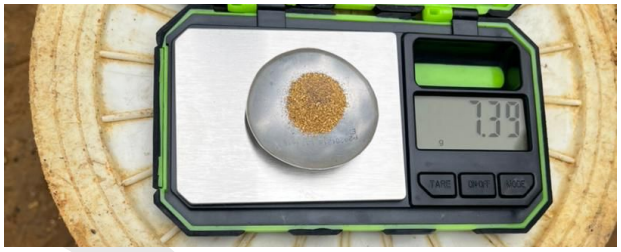
The below are key equipment and tools that are currently being used by Minexx Traceability for digital data recording on field (as shown by the above pictures) and along the supply chain, from mine site to smelter/downstream buyer level).

This equipment set is regularity upgraded to maintain the company's service efficiency and only used by designated employees at a pre-determined locations and facilities at upstream and downstream level.

1. Image 1, 2,3. QR code, bag, and tag: their role is to identify each produced-processed-blended-exported mineral bags/container at each stage of mineral traceability/business. Bags/containers should be temper proof or able to expose any tempering actions or breach of the integrity of a mineral bag/container and only be inspected and opened by a designated staff at a pre-determined location.

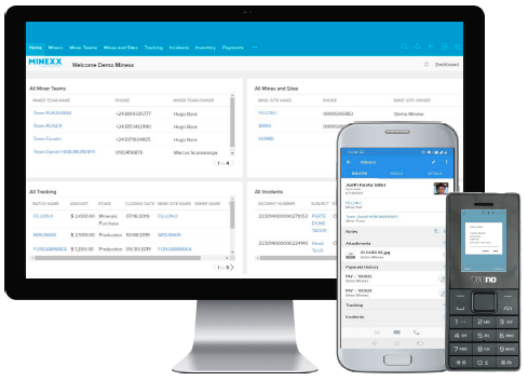
2. Image 4: ID cards of miners and miners team leaders: it helps to identify miners who participated in producing a specific minerals lot and operators staff present during the processing, transport and handling of minerals lots.

3. The scale: the below types of scale are used to determine the weight of minerals at various traceability chain steps



4. The logbooks: Currenly being used to record the above mentioned data points of the TR record and also as a backup solution, while Minexx is still stabilising the blochain treability platform. The plan is to fully switch to fuly digital tools for any data recording need.

5. Android/AOS platform: installed on a smartphone, Minexx mine monitors and agents of the mine institutions use the blockchain platform to collect the TR data at mine site level up to export.



D. MINIMUM CAPTURED DATA POINTS AT EACH TRACEABILITY/BUSINESS STEP

a) **Collection** (extraction point or the Mine Office/Store)

#	Required Production Details	Type of Info	Observation
Name of the mine and entity operating it			
1	Name and location of Concession/Mine/Site of origin	Mandatory	
2	Name of the Entity operating/mining the concession	Mandatory	
3	Logbook number	Optional	
4	Logbook date	Mandatory	
5	Type of minerals	Mandatory	
6	Nature of materials (powder/nuggets, concentrate)	Mandatory	
7	Collected weight (g)	Mandatory	
8	Lot reference number	Mandatory	
9	Purity	Optional	
10	Price/Kg/g	Optional	
11	Name of first buyer	Mandatory	
12	Sub-site name	Optional	

#	Required Production Details	Type of Info	Observation
13	Itinerary/route to firs buyer/processor	Mandatory	
14	Names and roles of 3 persons representing miners that produced the minerals (if available) 1. _____ 2. _____ 3. _____	Mandatory	
14	Name and signature of the mine supervisors/store keeper	Mandatory	
15	Note		

Note:

- *Additional data points may be added depending on the supply chain context, position, type of minerals, mining method (ASM, LSM) country of origin, and need of the operators being served under Minexx Platform. See annexes: example of 3TG forms for Nigeria and Rwanda: manual and digital ones.*
- *In CAHRAS zones, the production form can also be co-signed by an agent representing the mine institution/ministry.*
- *Logbooks are completed by operators site staff or Minexx Platform's, based on the recommendations of the Initial Risk Assessment of the Supply Chain (IRA Report).*
- *Name of the mining operator Rep: it is the name of the person who signs the production form*
- *The above data/info are entered directly into the Minexx Digital Platform by a designated/trained mine worker.*

At processor aggregator/comptoir/négociant/broker/dealer level: Reception, Blending and Exportation

b) Weight Check (at Warehouse of Processing: Comptoir/Negociant/Dealer/Broker)

#	Required Details of Received Minerals	Type of Info	Observation
1	Name of processor/comptoir/broker/négociant/dealer	Mandatory	
2	Location of the processor	Mandatory	Village/Centre/town/City/Country
3	Logbook number	Optional	
4	Reception date	Mandatory	
5	Type of minerals received	Mandatory	
6	Nature of materials (powder/nuggets/concentrate)	Mandatory	
7	Received weight (Kg or g)	Mandatory	
8	Lot reference number	Mandatory	
9	Purity/grade (%)	Optional	
10	Transport details 1. Foot, vehicle, motorcycle, bicycle, 2. Vehicle ID_____ 3. Drive name_____ 4. Driver ID number_____	Mandatory	

#	Required Details of Received Minerals	Type of Info	Observation
11	Destination and transport route	Mandatory	
12	Name(s) and signature(s) of the processor/négociant/broker/dealer representative	Mandatory	
13	Name(s) and signature(s) of the mine supervisor(s)/store keeper(s)	Mandatory	
14	Note		

c) Processing/Blending (at Warehouse of Processor: Comptoir/Negociant/Dealer/Broker)

#	Required Processing/Melting Details	Type of Info	Observation
1	Name of processor/comptoir/broker/négociant/dealer	Mandatory	
2	Location of the processor	Mandatory	Village/Centre/town/City/Country
3	Logbook number	Optional	
4	Blending date	Mandatory	
5	Type of minerals blended/mixed	Mandatory	
6	Nature of materials (nuggets/powder/concentrate)	Mandatory	
	Blended lots (as per received lots)		
7	Weight in/blended (Kg or g)	Mandatory	
8	Weight out after blending (Kg or g)	Mandatory	
9	Lot reference number	Mandatory	
10	Purity/grade (%)	Mandatory	
11	Name(s) and signature(s) of the processor/négociant/broker/dealer representative	Mandatory	
12	Note		

d) Exportation (at Warehouse of Processor: Comptoir/Negociant/Dealer/Broker)

#	Required Export Details	Type of Info	Observation
1	Name of processor/comptoir/broker/négociant/dealer	Mandatory	
2	Location of the processor	Mandatory	Village/Centre/town/City/Country
3	Logbook number	Optional	
4	Logbook date	Mandatory	
5	Type of minerals exported	Mandatory	
6	Nature of materials (bars/ingots/concentrates)	Mandatory	
7	Weight to be exported (Kg or g) base on blended lots	Mandatory	
8	Stock balance (Kg or g)	Mandatory	
9	Export reference number	Mandatory	
10	Purity/grade (%)	Mandatory	

#	Required Export Details	Type of Info	Observation
11	Name(s) and signature(s) of the processor/négociant/broker/dealer representative	Mandatory	
12	Name of gov agent representative	Optional	
13	Transporter Details 1) Flight_____ 2) Track_____ 3) Truck Driver_____	Mandatory	
14	Itinerary to destination	Mandatory	
15	Number of Certificate of Origin issued by relevant government agency	Mandatory	
16	Value of the lot (in USD)	Mandatory	
17	Name and address of the buyer	Mandatory	
18	Note		

Note:

- Copies of all government issued export documents should be shared with Minexx by clients/users of Minexx Digital Platform
- Some export documents are prepared in collaboration with more than one state agencies as well as private entities
  E.g.: National bank, customs services, certification/mine institutions, ministry of trade, revenue authority, airlines, commercial laboratory, etc
- The list of the export documents issued by some of the above listed agencies in countries of origin are also part of traceability documents.
- Inland transport and bill of lading are also shared with documents
- The list of export documents will be developed based the legislation of each country of origin

Delivery Refinery/Smelter: Reception Form

#	Required Processing/Melting Details	Type of Info	Observation
1	Name of refinery	Mandatory	
2	Location of the Refinery	Mandatory	Village/Centre/town/City/Country
3	Delivery date	Mandatory	
4	Nature of materials (bars/ingots/concentrate)	Mandatory	
5	Received Weight (g)	Mandatory	
6	Lot reference number from Supplier	Mandatory	
7	Purity/grade (%)	Mandatory	
8	Name(s) and signature(s) of the refinery/smelter representative(s)	Mandatory	
9	Number of Certificate of Origin issued by relevant government agency from country of origin	Mandatory	
10	Note:		

Note:

- Some counties of origin require local exporters to provide a copy of the above delivery receipt to the refinery
- At each step of traceability data recording, users/local gold exporters, recyclers, traders and refiners should faithfully specify in the note section of each form whether gold is mined, recyclede gold or grandfathered stock.
- In the same section, users/gold operators should also faithfully clarify whether they buy ASM gold and also determine (with the supervision of Minexx Platform) whether it can constitute a red-flag risk.

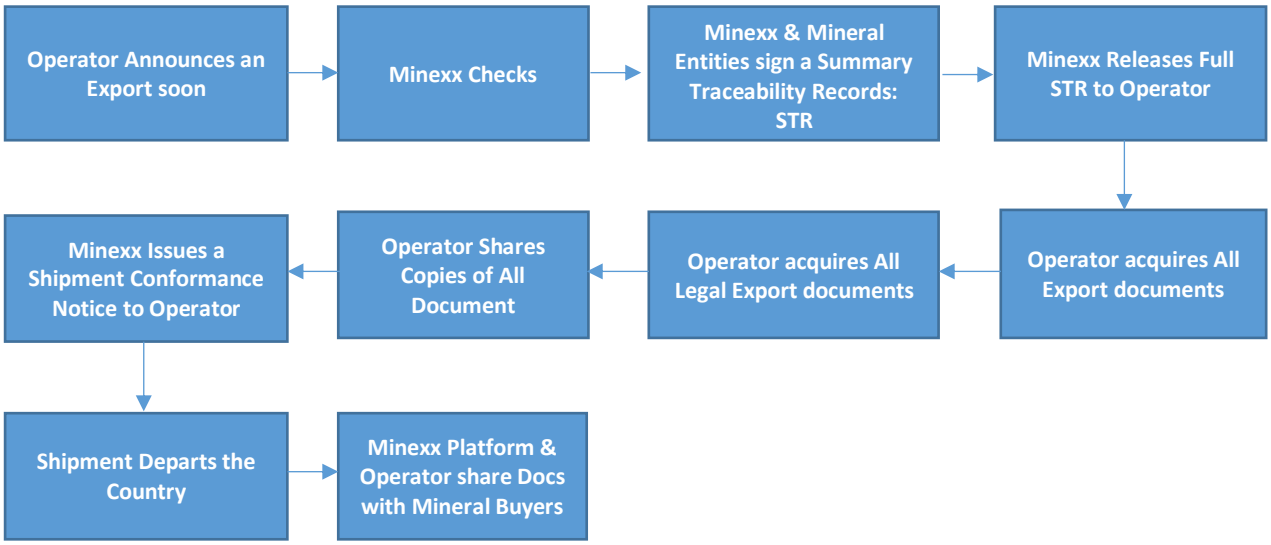
5. CHECKLIST OF REQUIRED SUPPLY CHAINS AND EXPORT DOCUMENTS

The table below shows provide the list of export documents which are checked and collected by Minexx Platform before the shipment of any minerals to the receiving buyer:

#	Document	To be availed by
1	Signed Summary of Traceability Record	Minexx Platform
2	Full Traceability Record	Minexx Platform & Operator
3	Stock Reconciliation	Upstream Exporter
4	Packing List	Upstream Exporter
5	Risk Assessment Report: RAR	Minexx Platform
6	Risk Resolution Actions: RRA File	Minexx Platform
7	Analysis and Assay Report of Mineral Samples	Upstream Exporter
8	Signed Minexx Conformance Notice	Minexx Platform
9	Proof of payment of ALL legal export taxes and fees linked to the specific minerals lot	Upstream Exporter
10	Customs shipment record	Upstream Exporter
11	Certificate of origin	Upstream Exporter
12	COMESA, EAC, ECOWAS, ICGLR, SADC Certificate: if relevant	Upstream Exporter
13	Invoice (to the buyer)	Upstream Exporter
14	Warehouse Release Note	Upstream Exporter
15	Transport & Insurance Arrangements	Upstream Exporter
16	Transport logs	Upstream Exporter
15	Invoices from transport company	Upstream Exporter
17	Drivers Details: ID, Passport	Upstream Exporter
18	Truck Details: Plate #, ID # if relevant	Upstream Exporter
19	Inland-Forward Notice: if relevant	Upstream Exporter
20	Airway Bill (by air)	Upstream Exporter
21	Bill of Lading (by sea)	Upstream Exporter
22	Reception Notice: refinery/smelter Country	Refiner/Smelter

6. SHIMENT CONFORMANCE NOTICE

The chart below summarizes the process through which a shipment supervised my Minexx Platform will go through at export level in the producing country, for it to be issued with a conformance notice or not.



7. ROLES OF UPSTREAM SUPPLY CHAIN ACTORS

a) Mine Suppliers or Users of Minexx Digital Traceability

The above mine suppliers and users of Minexx Digital Traceability should:

a) At any working hours, grant full access to Minexx, its partners and auditors, to mine concession/perimeter, sites, pits/shafts, tunnels, relevant premises, warehouses, stores, and relevant records including but not limited to mine workers, mineral production, diggers payment, etc
b) Designate a traceability/due diligence officer as a contact person to Minexx team
c) Avail space (office where possible) where traceability archives and logistics will be stored
d) Where relevant, regularly record and share traceability information and data as per the mine's pre-defined supply chain structure via Minexx digital platform
e) Share with Minexx copies of export documents for each shipment via Minexx Digital Platform
f) Engage and discuss the needed changes and adjustments to the Minexx digital traceability
g) Immediately inform and submit an incident to Minexx Office and mine regulatory institutions via Minexx Digital Platform whenever there a breach of OECD, ICGLR or CRAFT standards linked with the supply chains.
h) Lead and cooperate with the state's agencies and Minexx to find solutions to or resolve reported incidents along the supply chain
i) Initiate mitigation measures within 72 hours after an incident is reported
j) Meet other legal obligations as per the country's mine legislations
k) Keep all due diligence and traceability data/records for 5 years

b) Role of Mines Regulatory Institution(s)

Minexx expects and advocates that the state's leading regulatory agencies for mines, operators umbrella organisations need to

a) Administratively support Mnexx teams, its partners and auditors to access its relevant mine suppliers and perform its roles on the supply chains
b) Update Minexx team with their findings on periodic/general inspections of mines on Minexx supply chains
c) Share with Minexx historic data on information on Minexx targeted mine suppliers and mineral traders
d) Support and take legal actions on Minexx mine suppliers/clients on unresolved/failed incidents
e) Where relevant, designate a dedicated staff (on institution payroll) to regularly record and share/upload traceability information and data as per the mine's pre-defined supply chain structure via Minexx digital platform
f) Designate a contact person to collaborate with Minexx
g) Deploy trained staff on Minexx Digital Traceability to record traceability data along Minexx's suppliers/clients supply chains
h) Provide any other necessary support to Minexx and its clients/mine suppliers as per the OECD, ICGLR and CRAFT standards or the country's mines legislation
i) Conduct general inspection of mine sites.
j) Propose measures to strengthen the existing due diligence practice.
k) Keep all due diligence and traceability data/records for 5 years

c) Role of Minexx

The primary role of Minexx is to

a. Avail the Digital Platform to its mine suppliers/users/clients, mine regulatory agencies
b. Training of designated staff from supply chain stakeholders on the use and fixes of Minexx Digital Platform
c. Give access to the Digital Platform for data visualization, analysis and downloading
d. Update and advice its supply chain participants on any changes on OECD, ICGLR, CRAFT standards and international legislations linked with responsible mineral supply chains
e. Appoint a mine monitor in charge of regular assessments of mines on its own suppliers' supply chains
f. Where relevant, regularly record and upload traceability information and data as per the mine's pre-defined supply chain structure via Minexx digital platform
g. Technically support and connect its key supply chain participants to its Digital Platform
h. Share all collected traceability and risk management data with key supply chain actors
i. Support auditors from RMI and other industry organisations to audit Minexx's policies, processes and tools
j. Keep all due diligence and traceability data/records for 5 years

d) Minexx Mine Monitor

Minexx mine monitor is expected to avail, and provide updates to staff Minexx clients/users in charge of traceability data recording. Updates should not be limited to:

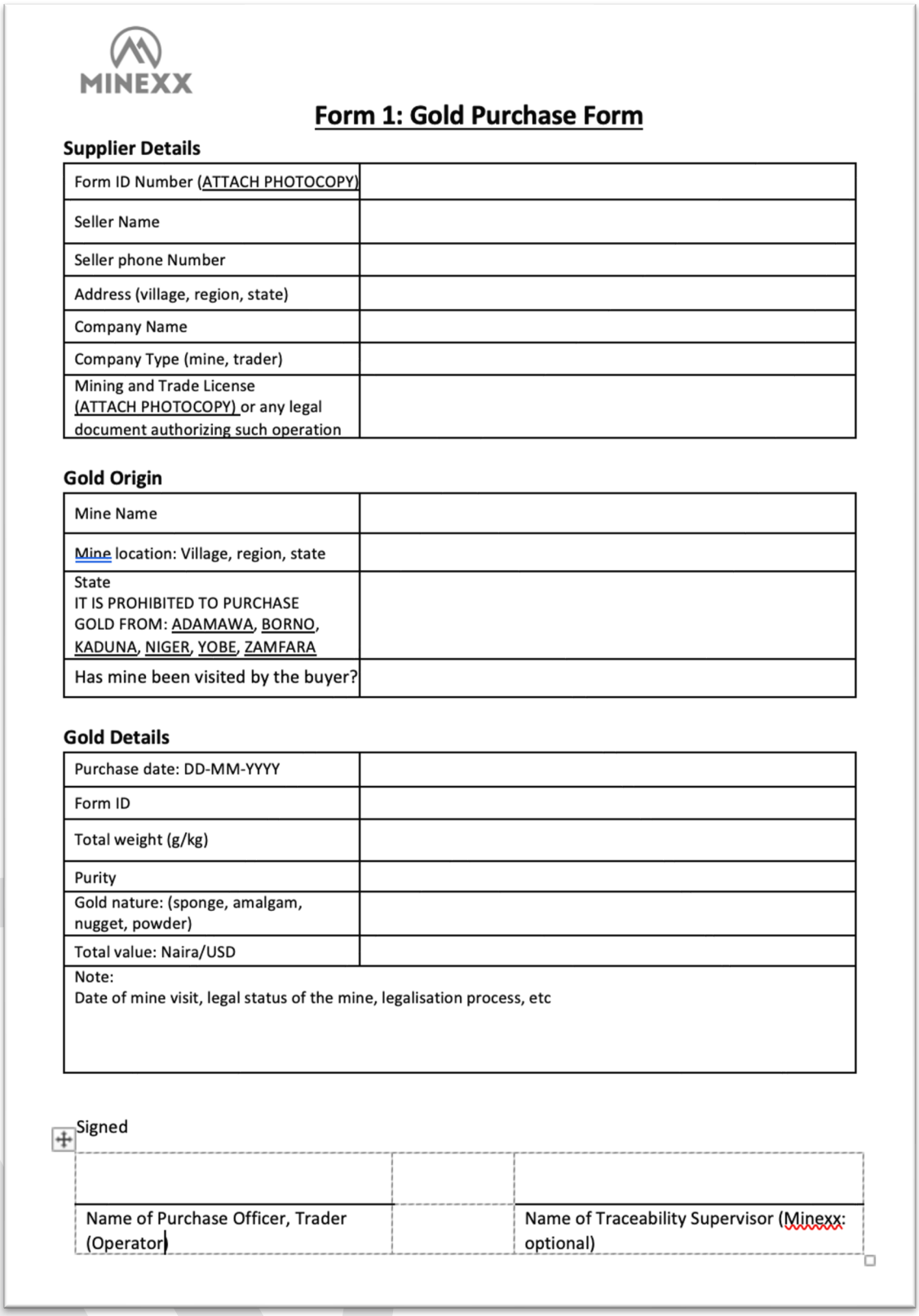
a) Represent Minexx on relevant mines – trading project on the ground
b) Coordinate and work hand in hand on the ground with the designated staff of Minexx's clients/users, and mines regulatory agencies on traceability data recording, incidents reporting, follow up and join general mines inspections from
c) designated staff of Minexx's clients/users, and mines regulatory agencies on OECD, ICGLR and CRAFT standards and Minexx Digital Platform as well
d) Confirm if there was no issue identified during data entered in the Minexx Digital Platform on regular basis.
e) Address/answer questions/comments/questions from local Minexx Office Team.
f) Provide additional information on events at the mine for which an incident needs to be reported.
g) Conduct periodic mine site assessments and diggers census on Minexx supply chains
h) Join local stakeholders' meetings to address supply chains incidents
i) Communicate on the need of additional traceability logistics to the Minexx mines/clients.
j) Communication on anticipated date/week of mineral export.
k) Sharing with Minexx Office Team with export documents after each mineral shipment
l) Informing on any issues with electronic data capture: defection and failure/disruption of equipment.
m) Communicate/advise on the need to change miners' IDs details due to change of roles and position, and recruitments.
n) Any other development/news/information/proposal that may improve quality of data capture and handling.
o) Report any absence to work that may affect the data recording on that specific day.
p) Updates on any decision to stop mining a tunnel/site or any change in the mine regular activities.
q) Communication any change in the processing operations (steps) at Minexx Platform's clients/users that may affects the actual structure of the supply chain and data recording.
r) Any other task as may be assigned by Minexx

e) Smelter/Refinery

a) Share copies of delivery notice to Minexx Platform

8. ANNEX

1. Gold Purchase Form used by a gold exporter in Nigeria



MINEXX

Form 1: Gold Purchase Form

Supplier Details

Form ID Number (ATTACH PHOTOCOPY)	
Seller Name	
Seller phone Number	
Address (village, region, state)	
Company Name	
Company Type (mine, trader)	
Mining and Trade License (ATTACH PHOTOCOPY) or any legal document authorizing such operation	

Gold Origin

Mine Name	
Mine location: Village, region, state	
State IT IS PROHIBITED TO PURCHASE GOLD FROM: ADAMAWA, BORNO, KADUNA, NIGER, YOBE, ZAMFARA	
Has mine been visited by the buyer?	

Gold Details

Purchase date: DD-MM-YYYY	
Form ID	
Total weight (g/kg)	
Purity	
Gold nature: (sponge, amalgam, nugget, powder)	
Total value: Naira/USD	
Note: Date of mine visit, legal status of the mine, legalisation process, etc	

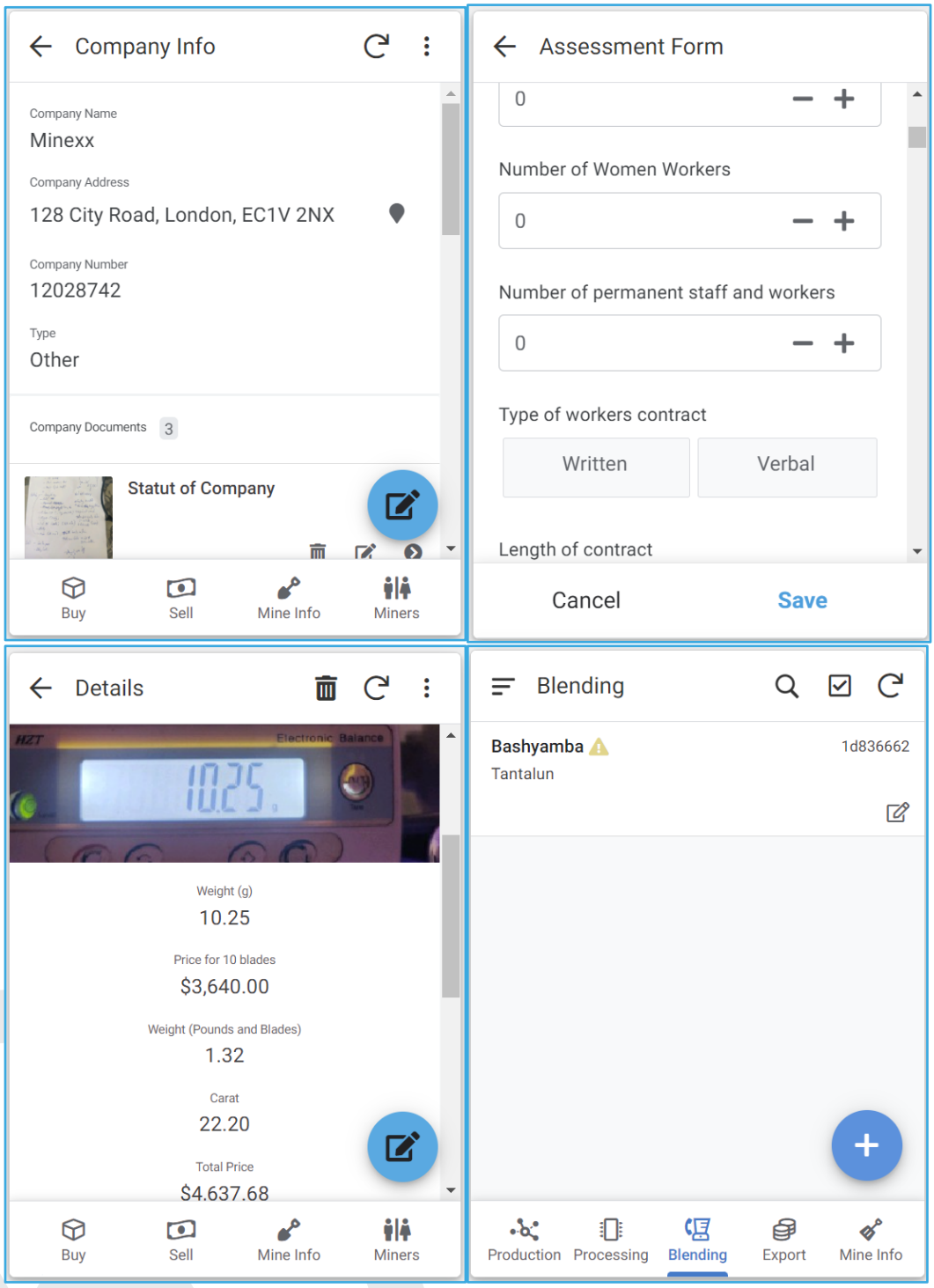
Signed

Name of Purchase Officer, Trader (Operator)		Name of Traceability Supervisor (Minexx: optional)

2. 3T production data form for GAMICO Minex in Rwanda

A
3Ts Data Collection Forms
Daily Production (DP) for each bag of minerals
Concession Name: GAMICO has 3 mines: 1. Bashyamba, 2. Muhanga, 3. Gatsibo: dropdown list for selection
Tag Number (scanning with phone camera):
Tagging Date and Time (system generated):
ID (for transaction):
Production Date (DDMMYYYY)**:**
Tunnel/pit number or name (optional):
Pit/Tunnel Leader ID or Name (Scanning of card **#):**
Production Weight (Kg for each bag):
3Ts Data Collection Forms
Summary of DP
Operator Name:
ID:
Concession Name:
Date:
Business Location:
Mine Form No.:
Name of RMB Representative:
Traceability Agent:
Name of Operator Representative:
Number of Bags:
Total Weight (Kg): of all produced minerals for each day**:**
Note: (any additional information):

3. Some digital version of Minexx Platform of traceability



4. Other 3TG traceability forms (excel & word) to track gold and 3Ts are attached to this guide.