



# **Technologies Enabling Transparency in the Gemstone Industry**

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MD Gübelin Gem Lab & Provenance Proof**

# OUR INDUSTRY IS INTRANSPARENT

- Artisanal & informal mining
- Unclear environmental & social standards
- Long, complex and fragmented value chain
- Underreported, undervalued goods
- Relationship- and trust-based trade
- Many good stories remain untold

*"The [gemstone] industry ...[has]... a reputation for corruption, conflict and deep connections to ... armed groups"*

Global Witness, May 2019



# MISSION & APPROACH

- Develop technologies to trace and track gemstones
- Help our industry becoming transparent, auditable, insurable, bankable

PROVENANCE  
PROOF

- Inclusive (LSM, ASM), available to everyone (KYC), no exclusivities
- Entire value chain





## SERVICE #2: PROVENANCE PROOF BLOCKCHAIN

- Started December 2017, completed and released to the industry February 2019
- Based on Hyperledger fabric, in cooperation with Everledger
- Digital log-book, tracking every transaction, from mine to end consumer
- For any type of gemstone (single stones AND parcels), open to any stakeholder in the industry, free of charge
- Low-tech (Smartphone) → suitable also for ASM-Sector
- Upstream visibility only, and only for the current owner/custodian of the stone
- To date, 80+ companies are using this platform!



Registration



Miner



Trader



Cutter



Gem Lab



Jeweller



Retailer

## ADD A NEW STONE TO INVENTORY

Enter the correct information about the stone, \* are mandatory fields

### STAKEHOLDER INFORMATION +

### ITEM INFORMATION -

Upload images of the stone\*

Drag and drop photo or browse

Remark\*

Enter short description of the image you have uploaded.

Carat weight\*

ct

Gem Species\*

- Please select -

Length

mm

Width

mm

Width

mm

Shape

- Please Select -

Colour

Enter the colour of the stone

Transparency\*

- Please select -

Gem Species

- Please select -

Treatment\*

- Please select -

Type of treatment( if yes)

Enter the type of treatment

Description

Enter short description of the stone

### LAB INFORMATION +

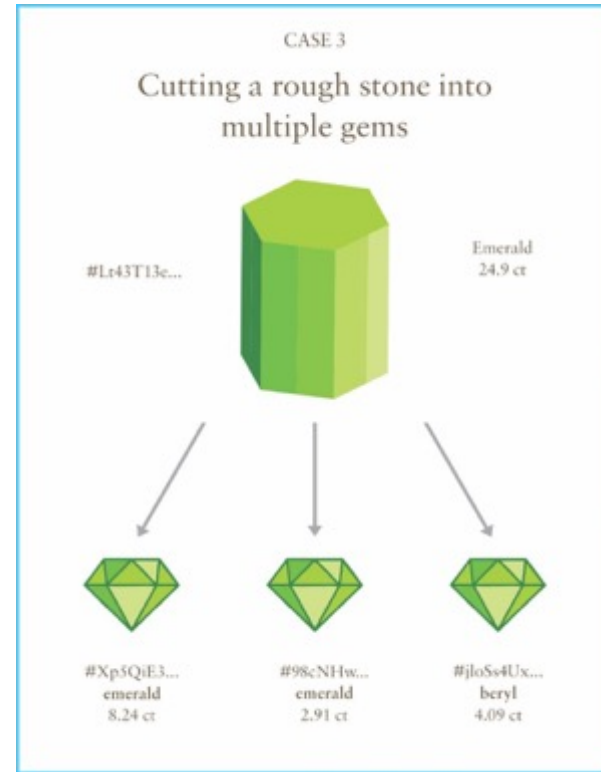
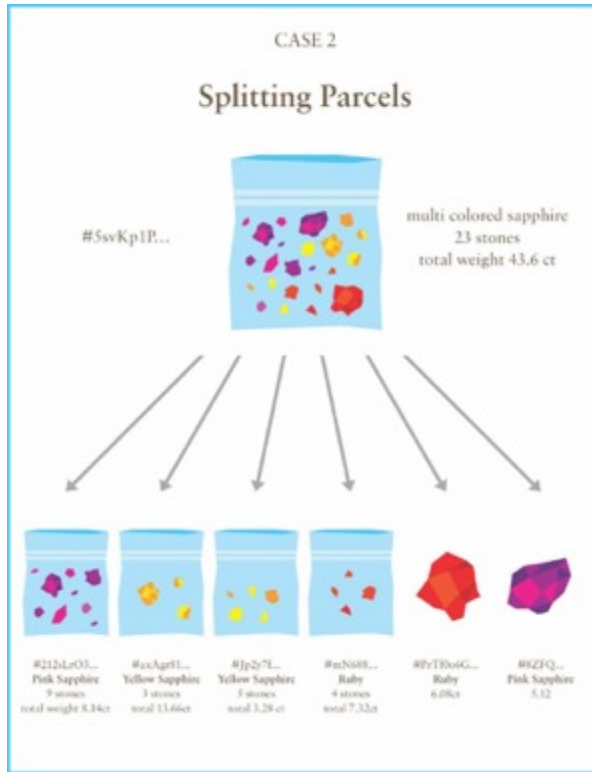
### TRACEABILITY INFORMATION +

### COMMUNITY INFORMATION +

CANCEL

SAVE

# PARCELS TRACKED BY PROVENANCEPROOF-BLOCKCHAIN



# Story view



Registration



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PROVENANCE PROOF

29.03 ct EMERALD

1411 Mark Propp

INVENTORS


TRANSACTIONS



ORIGIN

**Stakeholder Information**

Company Name	Fura Gem
Stakeholder company number	84521
PP Blockchain company ID number	96765
Name / ID of person in company	123456789
Stakeholder country of residence	Colombia
Stakeholder country of service	Colombia



Raw Information

Globally unique identifier number	8111991010
Date & time of transaction	12 January 2019, 4:24 pm
Type of item (e.g. rough, cut, jewelled)	Rough
Number of items	1
Type of gemstone	Emerald
Weight	29.03 ct
Shape	Rough
Cut	
Measurements	12.26 x 16.85 x 12.21
Transparency	Transparent
Colour	Green
Treatments	None

**ProvenanceProof Tracer**

Tracer Used	Smartest Polarity Test
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**Community Information**

Partner Organisation	Apacost
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Apacost, which was founded in 2002, works alongside the Colombian government and has formed strategic alliances with major international organisations, NGOs, laboratories and other stakeholders to help set policy and support sustainable emerald production.

CUTTER





Registration



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MB Mark Briggs  
Gemstones for all

INVENTORY

TRANSFERS

## INVENTORY

ADD A NEW STONE

Select a stone to see more options.



**Opal**  
53.52ct  
3 Jan 2019  
db4ff73-6b8c



**Emerald**  
29.03 Ct.  
9 Dec 2018  
db4ff73-6b8c



**Emerald**  
20.36 Ct.  
12 Sep 2018  
db4ff73-6b8c



**Sapphire**  
22.5 Ct.  
12 Sep 2018  
db4ff73-6b8c



**Ruby**  
15.53 Ct.  
12 Sep 2018  
db4ff73-6b8c



**Emerald**  
15.17 Ct.  
13 Nov 2018  
db4ff73-6b8c



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9.103 ct EMERALD



ORIGIN



CUTTER



Stone before and after cut

**Stone Information**

Weight	9.01 ct
Height	14.30 mm
Length	15.01 mm
Width	10.10 mm
Treatment	Oil

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# Selecting gemstones



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STONE INVENTORY

TRANSFER STONES CREATE A NEW JEWELLERY

Category: Stones x Type: Emerald x Ruby r Cut: All

Category	Type	Cut
Ruby	Emerald	Emerald
Ruby	Emerald	Ruby
Emerald	Ruby	Emerald
Emerald	Ruby	Ruby
Emerald	Emerald	Emerald
Emerald	Ruby	Ruby
Emerald	Ruby	Emerald
Emerald	Ruby	Ruby
Emerald	Emerald	Emerald
Emerald	Ruby	Ruby
Emerald	Ruby	Emerald
Emerald	Ruby	Ruby
Emerald	Emerald	Emerald
Emerald	Ruby	Ruby
Emerald	Ruby	Emerald
Emerald	Ruby	Ruby

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**Jeweller**



Retailer

## CREATE A NEW JEWELLERY

Enter the correct information about the stone. \* are mandatory fields

### SELECT STONES

Select stones from inventory that will be used in your jewellery piece.



Emerald  
1.3 ct  
12 Sep 2018  
0b4f173-60bc



Emerald  
1.3 ct  
12 Sep 2018  
0b4f173-60bc



Emerald  
1.3 ct  
12 Sep 2018  
0b4f173-60bc

SELECT STONE

### JEWELLER INFORMATION

### DESIGN INFORMATION

Designer

Name of the designer

Design Concept

Design Inspiration

Tell the story behind the inspiration for the jewellery piece

Design Inspiration

Drag and drop photo or browser

### PRODUCT INFORMATION

### COMMUNITY INFORMATION

UPLOAD JEWELLERY



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## EMERALD COLLIER

🔍 🔔

**MB** Mark Briggs  
Contributor for all

INVENTORY


TRANSFERS




◂ ◃ ◅

GEMSTONES IN THIS JEWELLERY PIECE


Click on each stone to view its information and provenance



Emerald  
91 ct  
cb-4ff73-6b8c



Emerald  
354 ct  
cb-4ff73-6b8c



Emerald  
394 ct  
cb-4ff73-6b8c

JEWELLER INFORMATION	+
DESIGN INFORMATION	+
PRODUCT INFORMATION	+
COMMUNITY INFORMATION	+

# Endconsumer's story view



Registration



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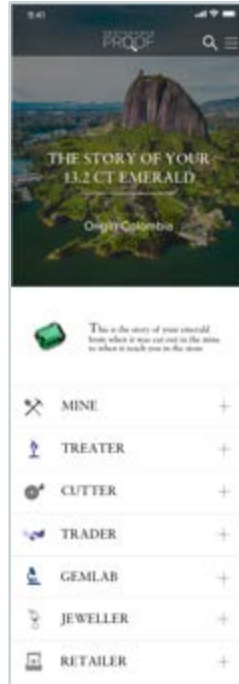
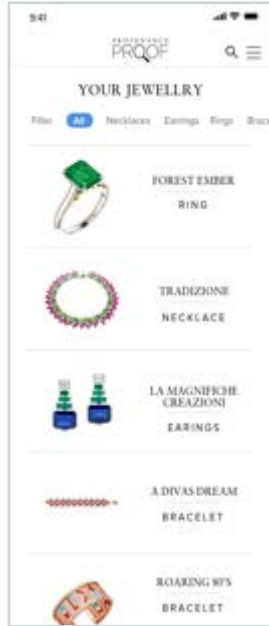
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Jeweller



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# Why embracing transparency technologies?

- Compliance: legal, tax, audits
- Marketing: customised, credible storytelling
- Risk: reputational risks, know your counterparty, banks & insurances



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