WHISKY-CHAIN

blockchain technology in whisky production

THE PURPOSE

digital unique passport

Stakeholders access whiskey's origin, production, and certifications through a blockchain-stored digital passport for each bottle

customers gain confidence in product quality by verifying the authenticity of their whiskey purchases

authenticity check

Blockchain enhances producers' ability to demonstrate quality and empowers consumers with verifiable information across the whiskey ecosystem

THE PURPOSE

WHY BLOCKCHAIN

Immutable Records

guarantees the authenticity and provenance of each whiskey bottle, preventing counterfeiting

Enhanced Trust and Transparency

enables detailed tracking of whiskey from production to purchase, ensuring high standards and verified quality

Modernisation and Innovation

integrates blockchain technology to modernise production and appeal to consumers who value transparency

KEY POINTS

- **State of the art**
  inspiration from Current Research
- **Use case**
  innovation
- **Workflow**
- **(Dis)Advantages**
  blockchain's transformative impact on whiskey industry

STATE OF ART

INSPIRATION

some of the papers which were essential in guiding and informing the analysis

“Blockchain Technology in the Food Industry”

Fabio Fortuna, Mario Risso (2019)

- ☆ workings, benefits, and limitations of blockchain technology in agri-food supply chains

“Blockchain Technology in the Food Industry: A Review of Potentials, Challenges and Future Research Directions”

Rejeb, Keogh, Zailani, Treiblmaier, and Rejeb (2020)

- ☆ review and analysis of 61 journal articles to assess benefits and challenges of blockchain technology

“Developing anti-counterfeiting measures: The role of smart packaging”

Jan Mei Soon, Louise Manning (2019)

- ☆ review of counterfeiting and exploration of packaging-related anti-counterfeiting in the Scotch production with a correlated strategy

“Whisk(e)y”

Alan G. Wolstenholme (2023)

- ☆ examination of the production, maturation, and quality parameters of whisky (Scotch)
- ☆ a detailed explanations of the whiskey production process and its various stages is presented, offering comprehensive insights for understanding and improving production techniques

USE CASE

NETWORK PARTICIPANTS AND ACTORS

producers and distilleries

Producers and distilleries use blockchain to create detailed digital passports, ensuring authenticity and transparency in whiskey production

consumers and collectors

Consumers and collectors use blockchain to verify whiskey authenticity, access detailed production information, and enhance their collections

retailers and regulators

Retailers and regulators use blockchain to verify whiskey authenticity, ensure compliance, and enhance stock management, fostering trust and consistency in the bourbon trade

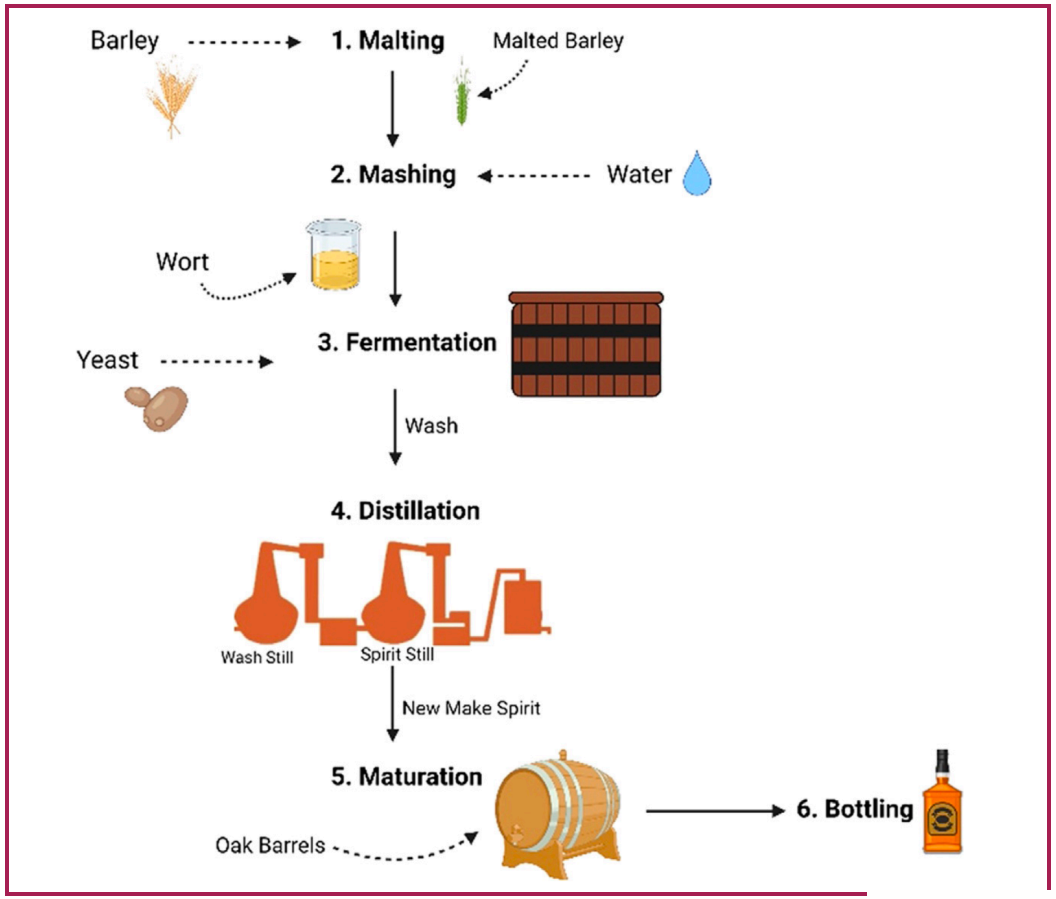
USE CASE

ASSETS IN THE LEDGER

how to reach transparency in:

1. *malting*. Origin of malt type, quality
2. *mashing*. Mineral composition of the water
3. *fermentation*. Yeast strains used, fermentation duration
4. *distillation*. Distillation techniques employed, type of stills
5. *maturation*. Type of barrels, aging duration
6. *bottling*. Dates and locations of bottling, distribution channels

"Whisk(e)y" [Alan G. Wolstenholme (2023)]



INNOVATION

development of new novelties

1

Immutable Digital Signatures for Authenticity

Consumers can easily authenticate purchases and detect counterfeits, fostering transparency and trust in the supply chain.

2

Interactive Consumer Engagement

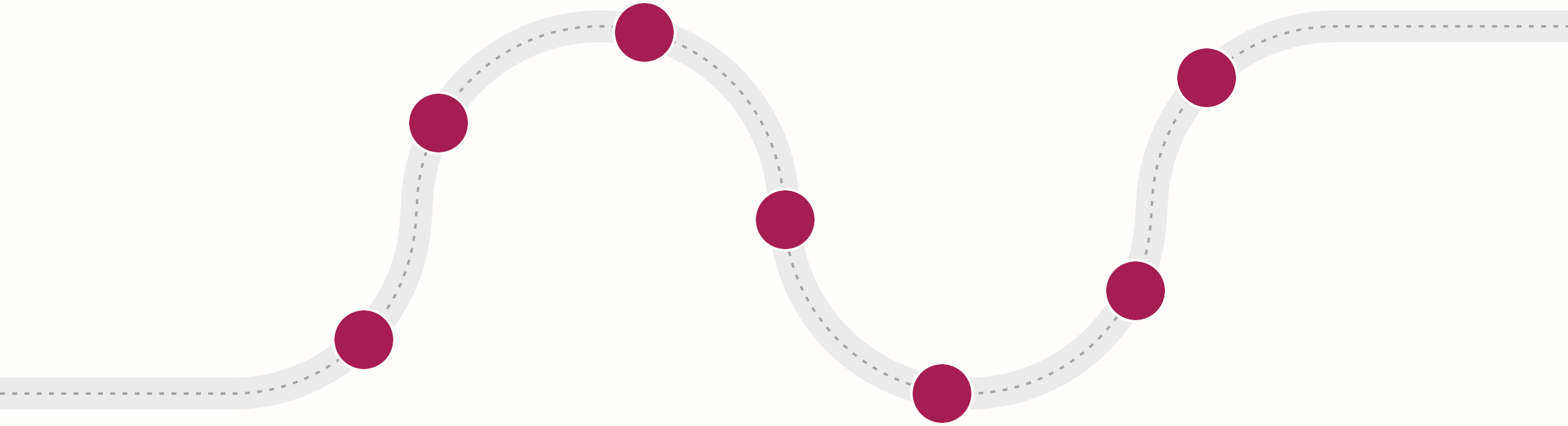
Consumers can use mobile apps or web platforms to access whiskey's digital passports, providing detailed production information, tasting notes, and food pairings, enhancing their overall experience and brand engagement.

3

Blockchain-powered Whiskey Auctions

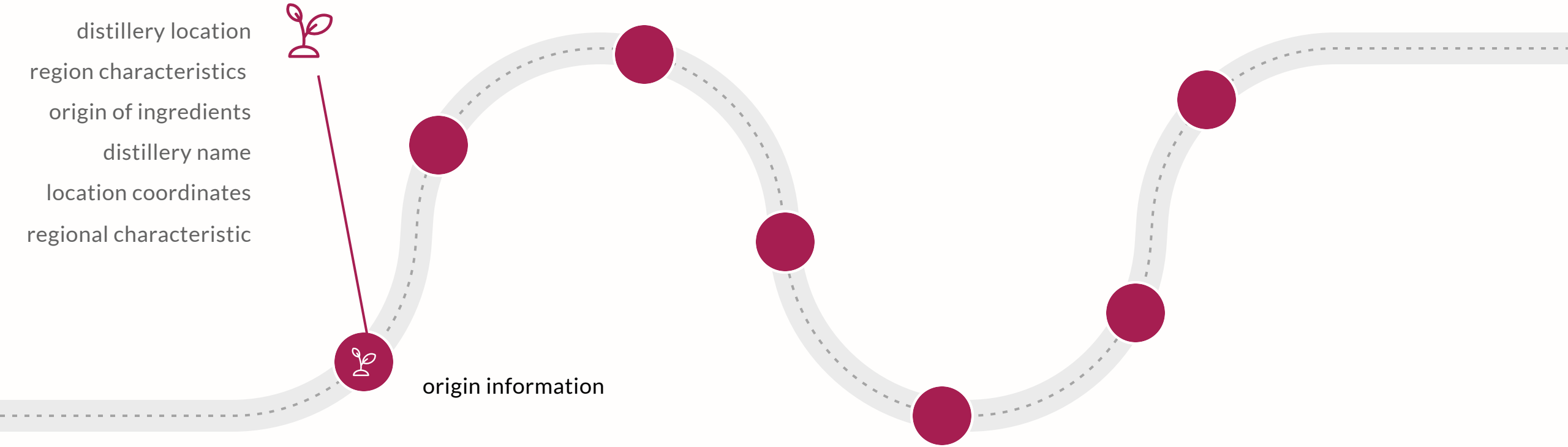
Collectors can confidently buy and sell rare bottles, assured of authenticity and provenance, while blockchain ensures transparency and trust, elevating the value and prestige of whiskey auctions.

WORKFLOW



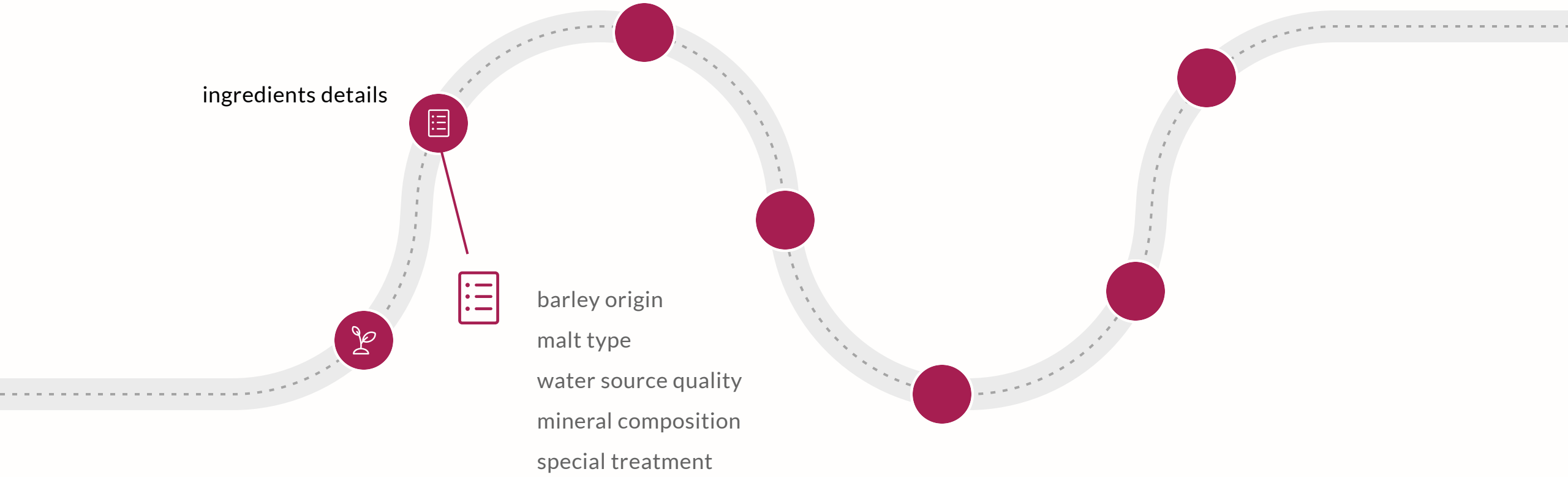
WORKFLOW

distillery location
region characteristics
origin of ingredients
distillery name
location coordinates
regional characteristic



origin information

WORKFLOW



WORKFLOW

mashing details

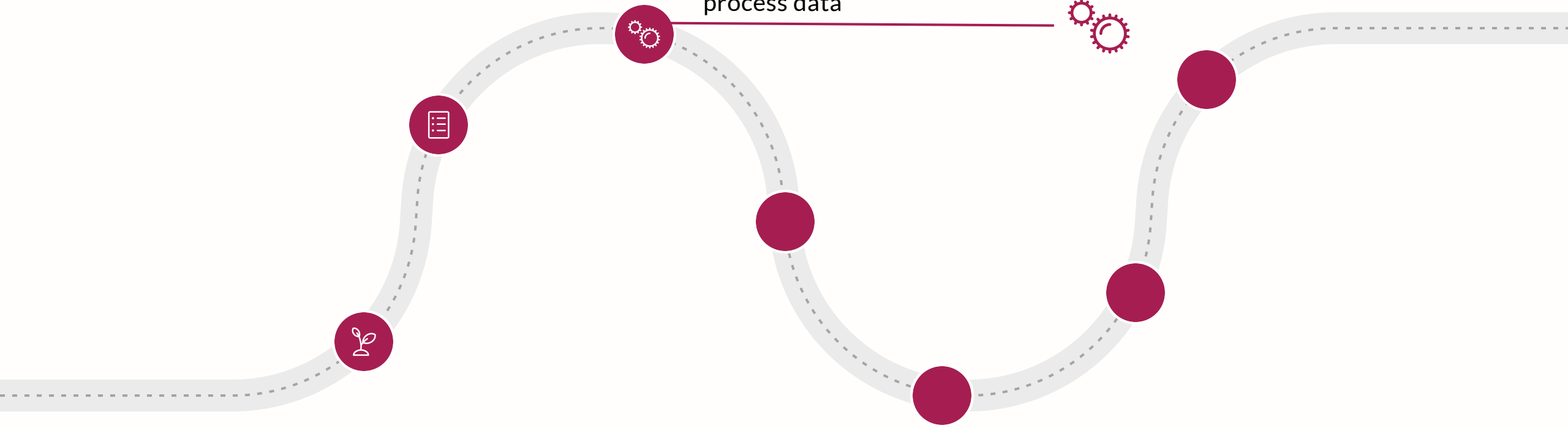
fermentation details

distillation techniques

maturation processes

unique digital signature

production process data



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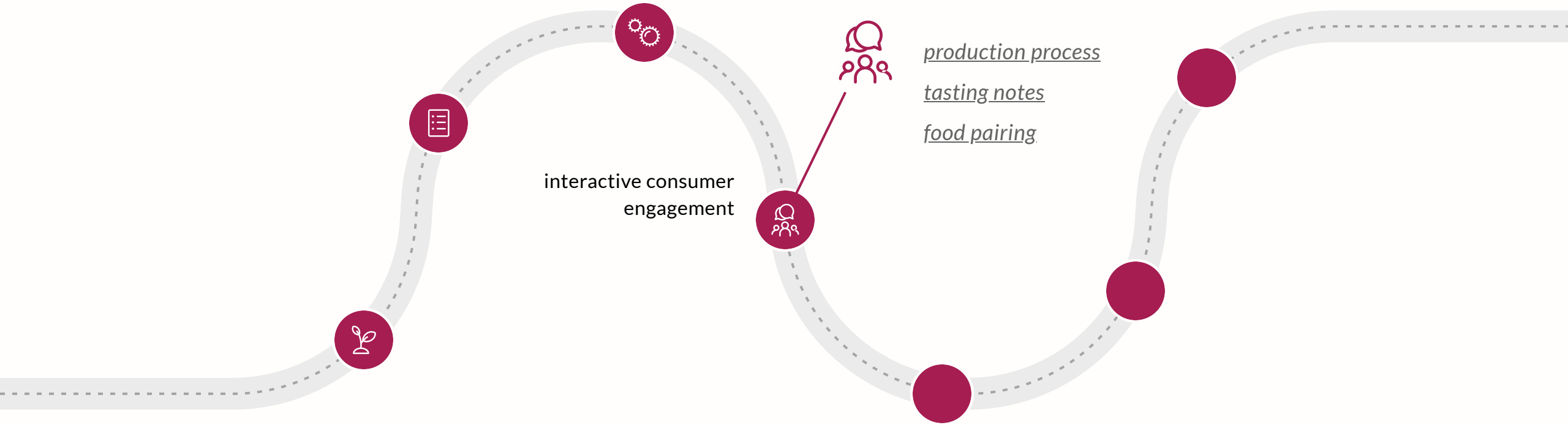
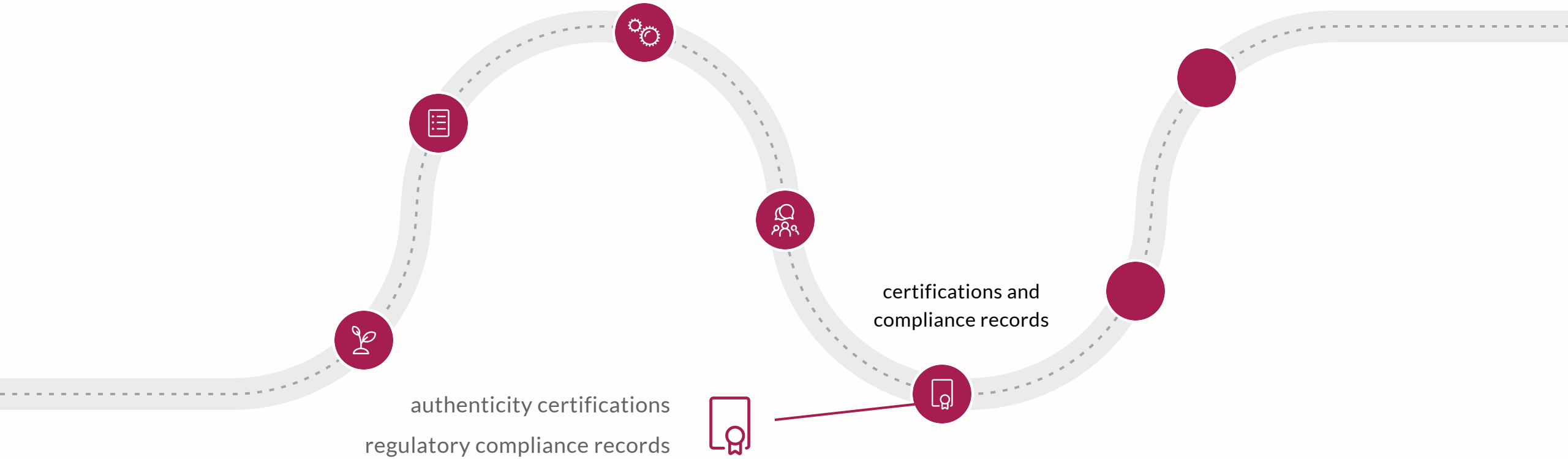


WORKFLOW



WORKFLOW

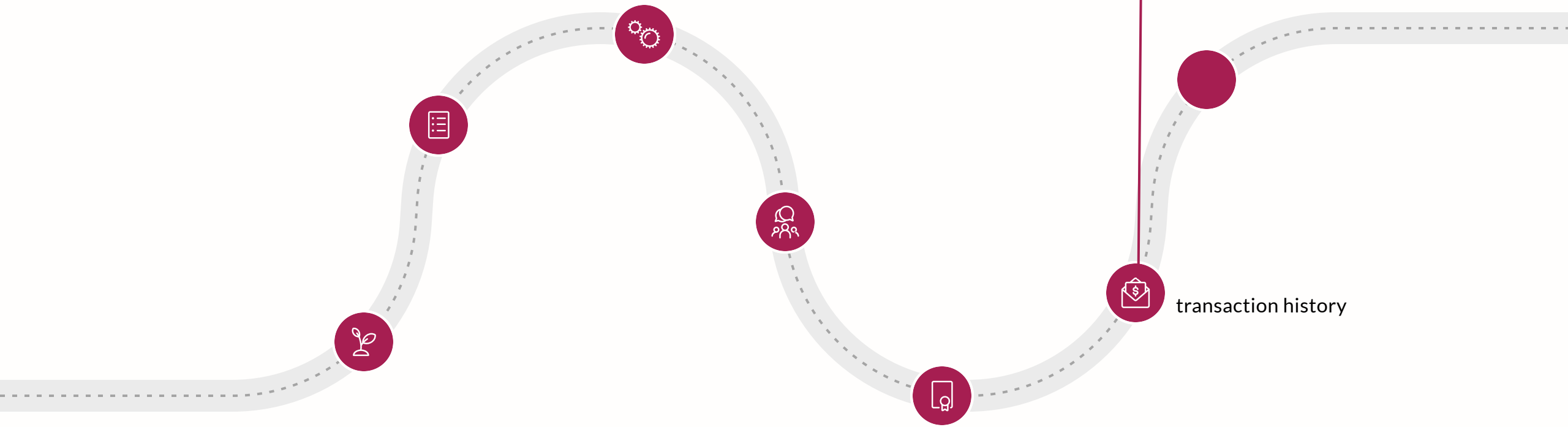
date of bottling

location of bottling

distribution channels

bidding history

final sale prices



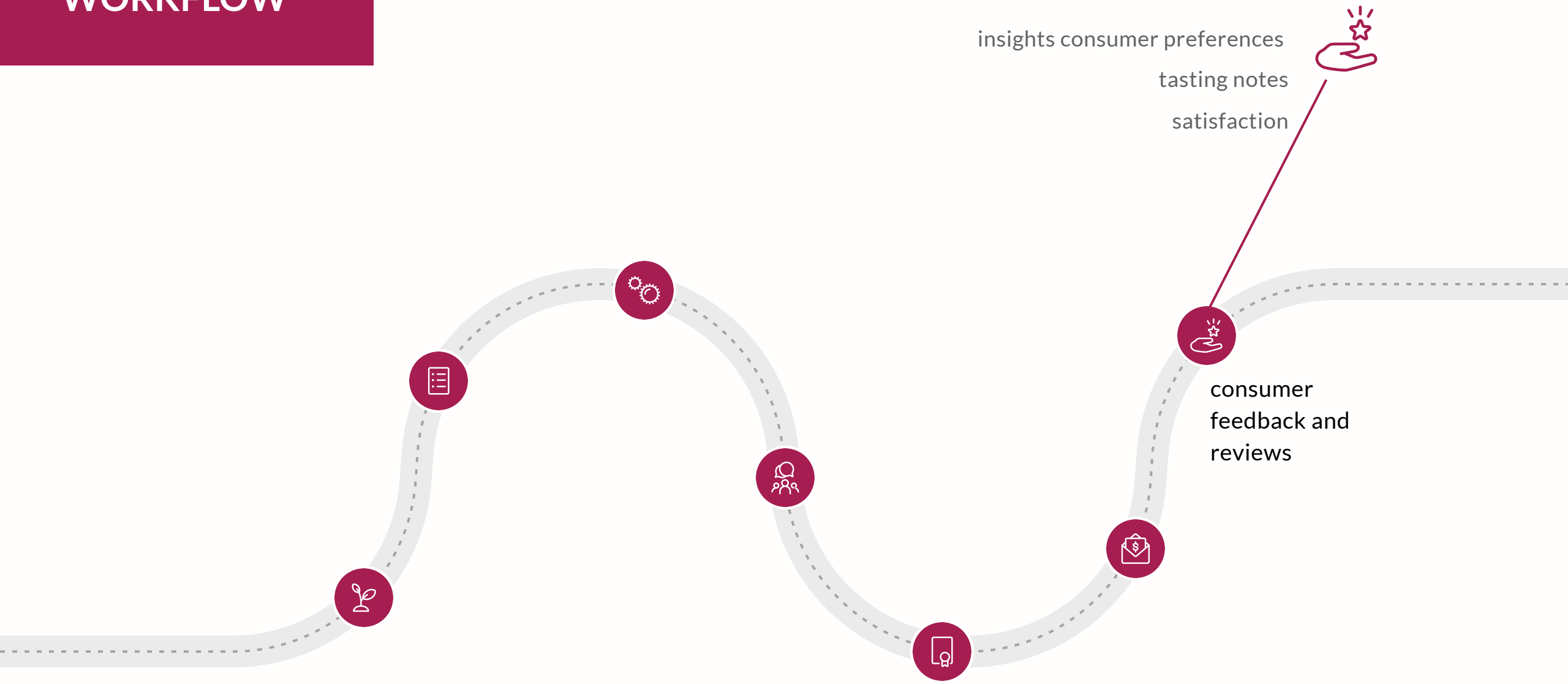
transaction history

WORKFLOW

insights consumer preferences

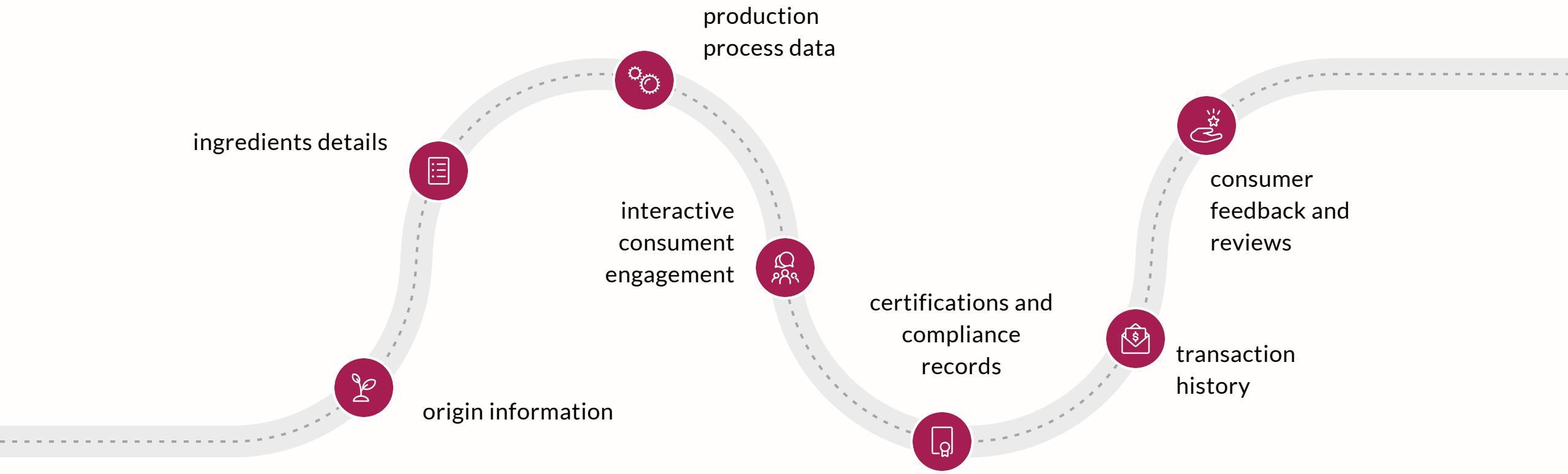
tasting notes

satisfaction



consumer feedback and reviews

WORKFLOW



(DIS)ADVANTAGES

Immutable Digital Signatures for Authenticity

blockchain's immutable records ensure the authenticity of whiskey bottles, combating counterfeit products

Interactive Consumer Engagement

platforms powered by blockchain offer consumers interactive experiences, enriching their whiskey journey

Blockchain-powered Whiskey Auctions

auctions provide secure and transparent transactions, enhancing trust among collectors

Cost and Implementation

high costs and complex implementation processes, including significant investment in infrastructure, training, and ongoing maintenance, pose challenges, especially for smaller distilleries

Interoperability and Integration

interoperability and integration challenges complicate seamless data sharing across the supply chain, leading to compatibility issues and increased costs

CONCLUSION

BLOCKCHAIN BECAUSE

Enhances Consumer Trust

provides consumers with transparent and verifiable information about whiskey production, fostering trust in the authenticity and quality of the product

Alignment with Tax Authorities

ensures accurate and tamper-proof documentation of transactions reducing the risk of tax evasion

Prevention of Counterfeiting

protects both consumers and producers from illicit activities

Improved Supply Chain Traceability

blockchain enables tracking of whiskey production processes, from grain to glass, enhancing supply chain transparency and accountability

Fosters Consumer Engagement

by providing auditable records of transactions and certifications, blockchain technology simplifies regulatory compliance for distilleries, promoting adherence to industry standards and regulations

SLÀINTE MHAITH!

slan-cha va

THANK YOU