
AWS
re:Invent
NOV. 28 – DEC. 2, 2022 | LAS VEGAS, NV

BLC201

When to use Blockchain: Private and public use cases

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AWS

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CJ Corporation

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Toyota Connected North America

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Agenda

1. When to use blockchain
2. Private and public blockchains
3. What about Web3?
4. How Amazon Managed Blockchain helps
5. Customer stories: CJ Corporation (Private)
6. Customer stories: Toyota Connected North America (Public)

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When to use Blockchain?

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What is blockchain good for?

Provides a network for businesses and individuals to share workflow, data, and value in a connected digital world.

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Four criteria for successful blockchain application

Will trusted, clean data and automation help?

Does the workflow involve multiple entities?

Do blockchain members have equal rights in the system?

Are your performance requirements achievable?

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Private and public blockchains

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Private blockchains

Characteristics

Permissioned network

Members usually known in advance

Identity knowledge is important

Benefits

Control of access

Privacy and compliance features

Scalability, efficiency, and sustainability

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Private blockchain use cases

Track and trace – supply chains and logistics

Financial services and settlement

Identity – government credentials (e.g., passport)

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Types of private blockchains



HYPERLEDGER FABRIC

Modular framework and flexible privacy

r3.

Financial system integration and performance (20k TPS)



HYPERLEDGER BESU

Permissioned and compatible with Ethereum







More…

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Public blockchains

Characteristics

Permissionless network

Participants are not identified

Anonymity is important

Benefits

Open read and write

Rapid product growth and innovation

Ledger is widely distributed

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Public use cases

Decentralized Finance (DeFi) – open access to financial services

Payments – digital payments and remittance

Non-fungible tokens (NFTs) – digital ownership and consumer engagement

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Types of public blockchains



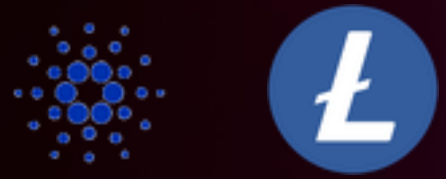
Settlement security and decentralization



Scalability (Side Chains, Layer 1s, Layer 2s)



Interoperability



More…

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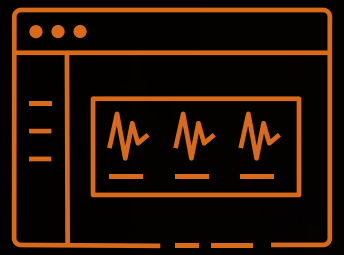
What about Web3?

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What is Web3?

Web1

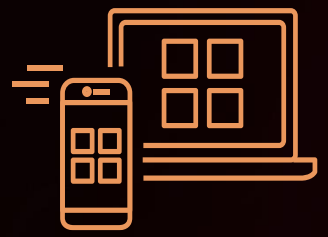
The internet of information:
Read



1990–2005

Web2

The internet of interactions:
Read-**Write**



2005–2020

Web3

The internet of value:
Read-Write-**Own**



2020–Present

aws

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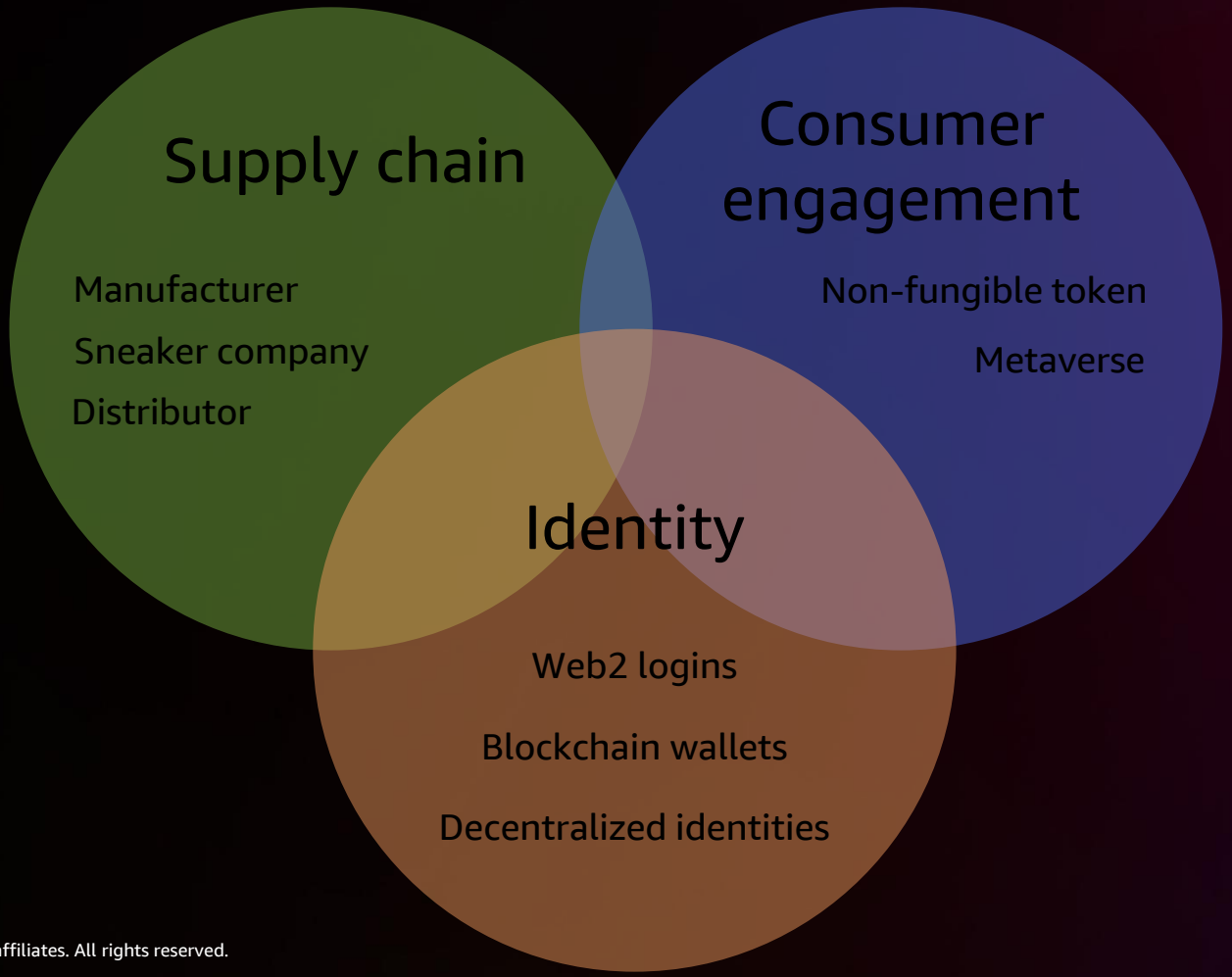
Is Web3 private or public blockchain?

Although Web3 innovation is starting in public blockchains, the future points to blending private and public blockchains.

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An example of Web3 “hybrid” blockchains

A sneaker company meets customer desire for **social and environmental responsibility** while **providing physical and digital experiences** to the customer.

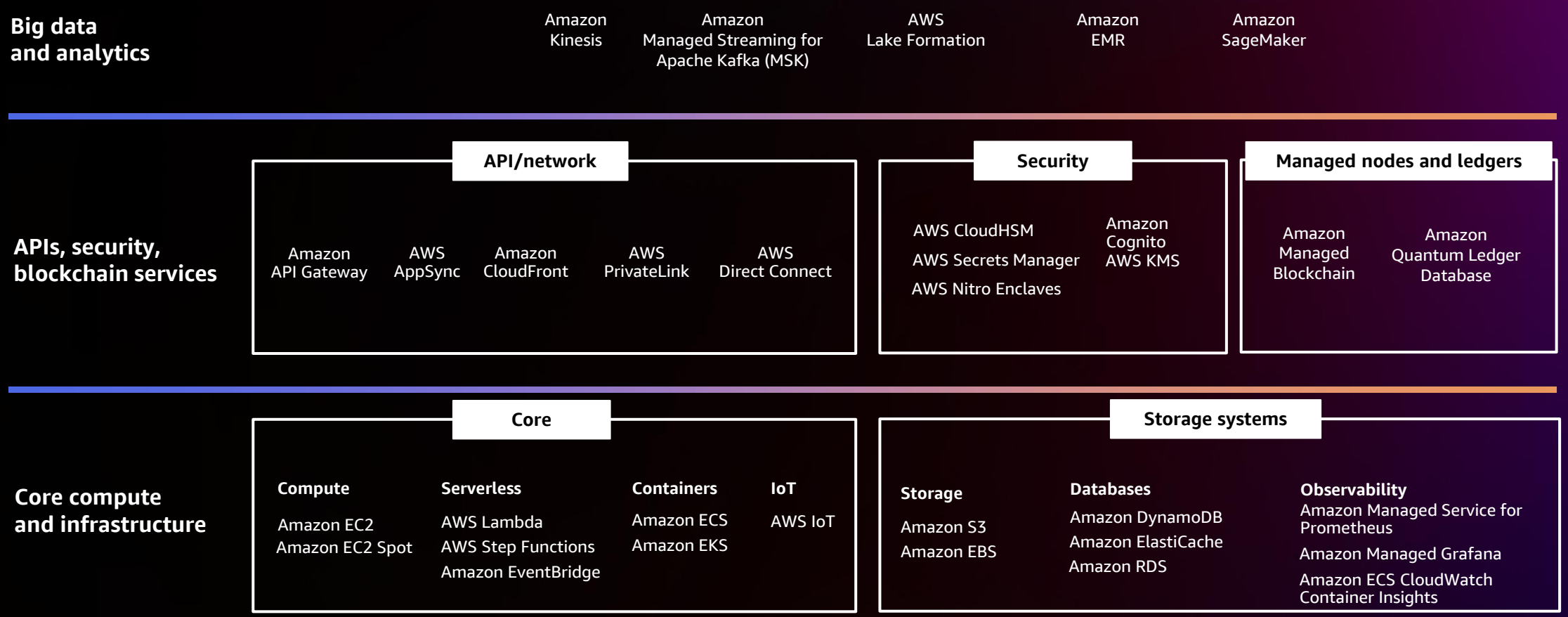


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How Amazon Managed Blockchain helps

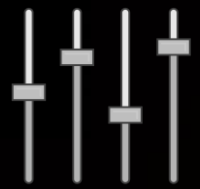
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AWS: The building blocks for blockchain/Web3

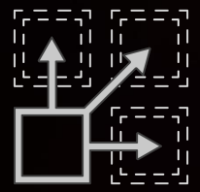


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Amazon Managed Blockchain solution



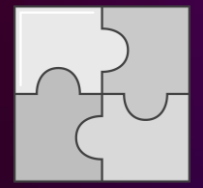
Fully managed



Reliable and scalable



Low cost



Integrated

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What’s new for 2022?

Hyperledger Fabric 2.2 – version upgrade

Hyperledger Fabric on GovCloud

Token-based access for Ethereum (public preview)

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Customer story: CJ Corporation

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Customer Story: CJ Corporation

Elliott Ahn - Executive Director of CDO Office

(elliott.ahn@cj.net, Elliott Ahn | LinkedIn)

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Now everyone around the world eats, watches, and enjoys Korea!

Korean food going global
“Bibigo”

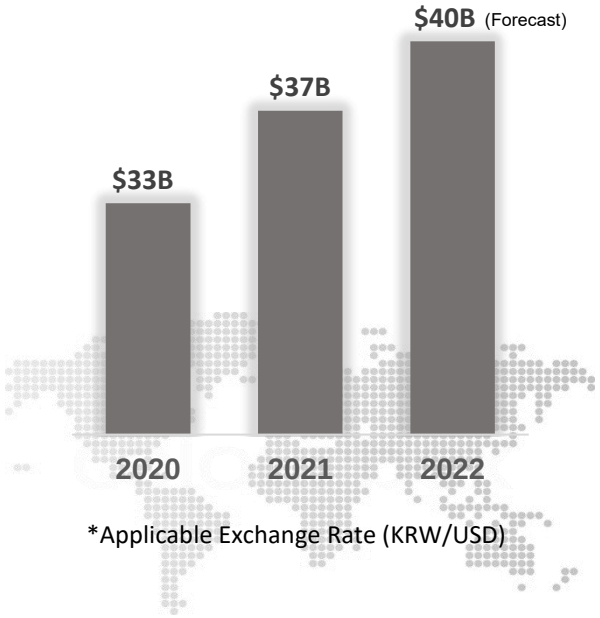
Milestone of Korean film
Parasite

Largest K-Culture festival
“KCON”

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BUSINESS OVERVIEW

CJ GROUP revenue



*Applicable Exchange Rate (KRW/USD)

"Delicious World"
Food & Food Services (33%)

"Healthy World"
BIO (14%)

"Convenient World"
Logistics & Retail & ICT (37%)

"Joyful World"
Entertainment & Media (16%)





Sugar



Instant Rice



E-fulfillment



Parcel



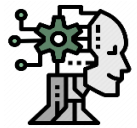
Home Shopping



Health & Beauty Chain Store



Movie Theater



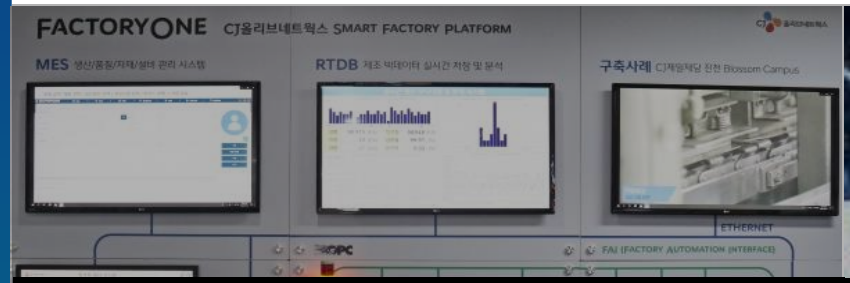
Business AI



Blockchain

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FACTORY ONE HACCP



Smart HACCP[1]

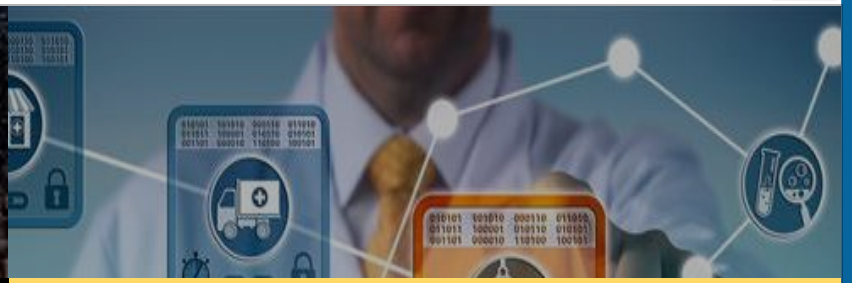




BGM Copyright Management System



CHAINONE BLOCKCHAIN



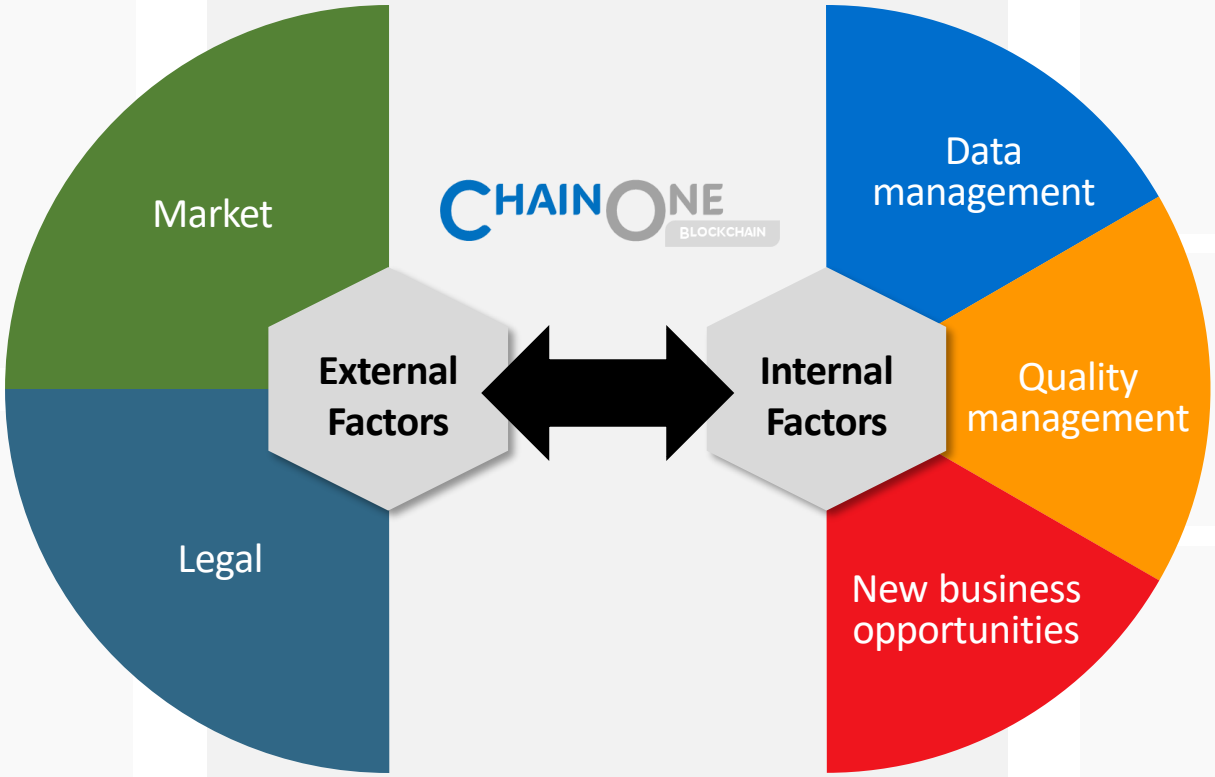


1) HACCP: Hazard Analysis Critical Control Point

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Fast spread of COVID-19

Regulations on shipment
(Procedures and methods)

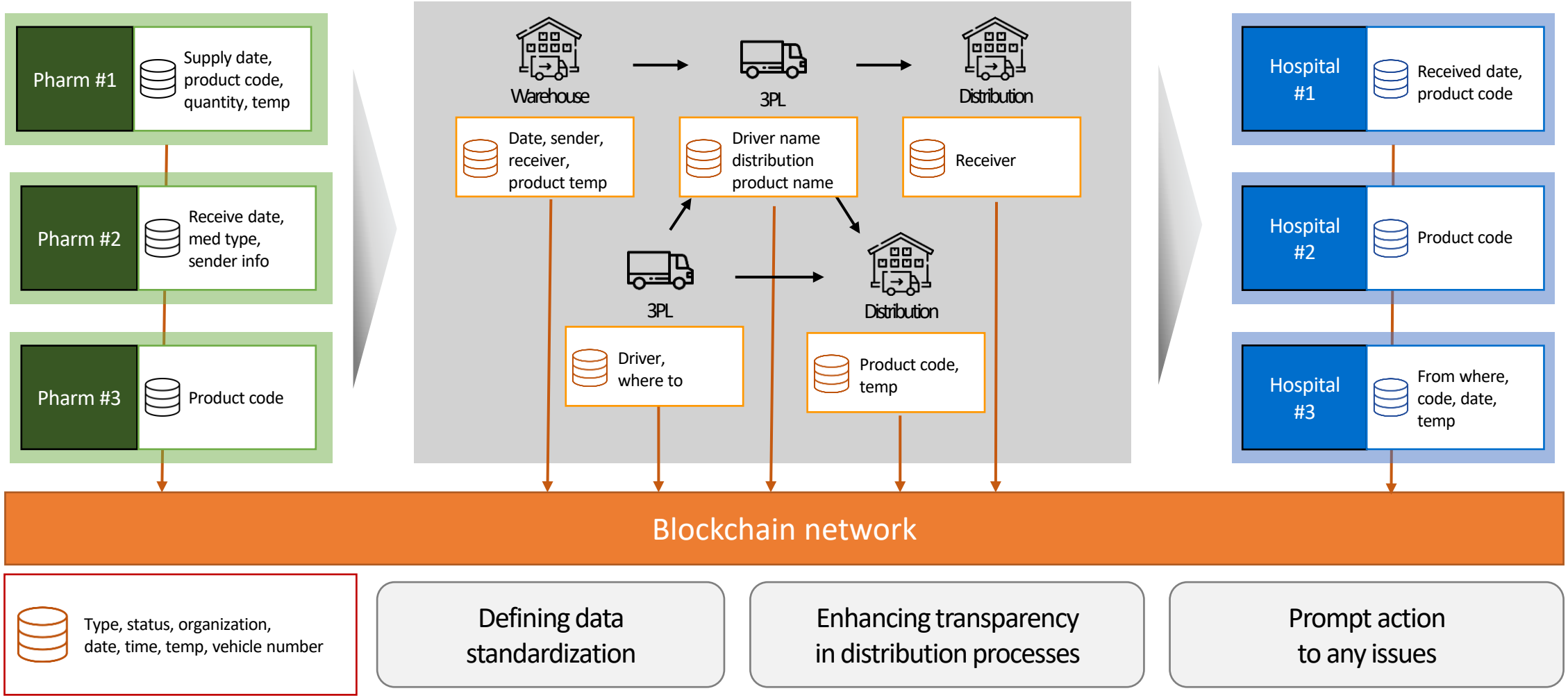


Pain points :
Legacy on data sharing

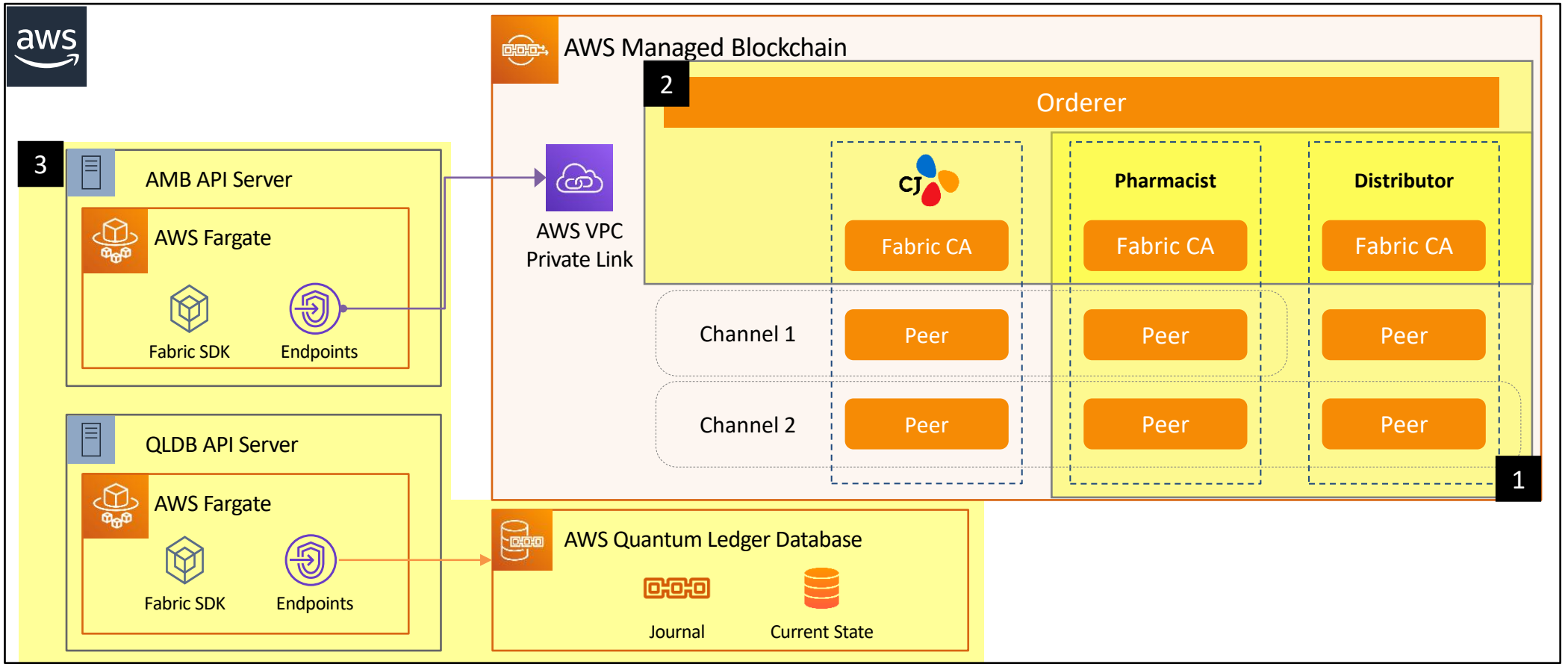
Reliability and efficiency issues on pharma quality control

High needs to create new business opportunities

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1 Easy to add new member

2 Fully managed service (KMS, EC2)

3 Adoption friendly services

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Manufacturing → Logistics → Distributor → Medical Institution

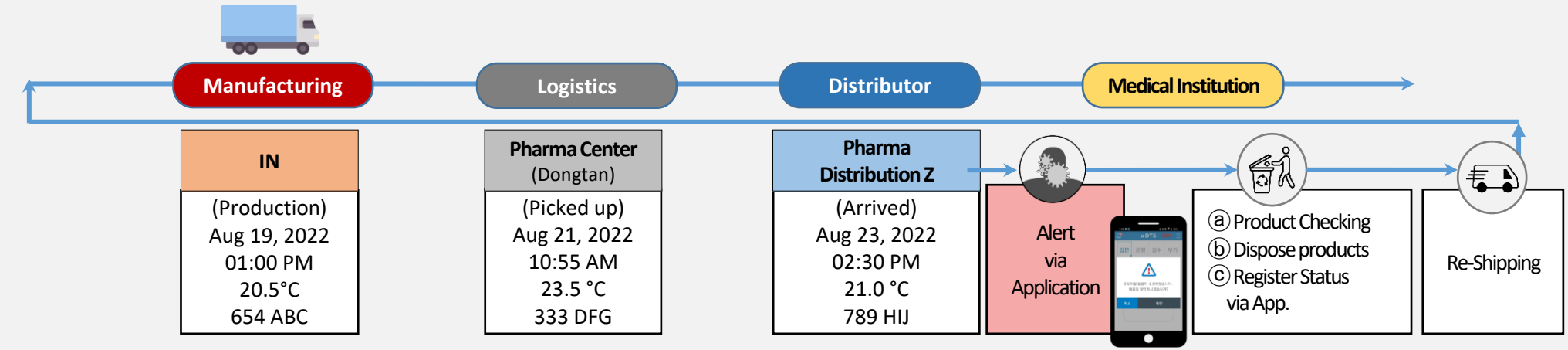
IN	Pharma Center (Dongtan)	Pharma Distribution Z	Pharmacy A (Busan)
(Production) Aug 19, 2022 01:00 PM 20.5°C 654 ABC	(Picked up) Aug 21, 2022 10:55 AM 23.5 °C 333 DFG	(Arrived) Aug 23, 2022 02:30 PM 21.0 °C 789 HIJ	(Delivered) Aug 28, 2022 01:30 PM 20.2 °C 123 KLM

Type	Status	Organization	Date	Time	Temp.	Vehicle No.
Manufacturing	Production	Inno.N	Aug 19, 2022	13:00:00	20.5	654 ABC
Logistics	Package Picked up	Pharma Center (Dongtan)	Aug 21, 2022	10:55:00	23.5	333 DFG
Logistics	Out for Delivery	Pharma Center (Busan)	Aug 23, 2022	10:55:00	22.5	789 HIJ
Logistics	Delivered	Pharma Center (Busan)	Aug 23, 2022	14:30:00	21.5	789 HIJ
Distributor	Package Arrived	Pharma Distribution Z	Aug 23, 2022	14:30:00	22.5	789 HIJ
Distributor	Out for Delivery	Pharma Distribution Z	Aug 27, 2022	07:00:00	21.0	123 KLM
Medical Institution	Delivered	Pharmacy A (Busan)	Aug 27, 2022	13:30:00	20.2	123 KLM

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Situation : Temperature Alarming

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Type	Status	Organization	Date	Time	Temp.	Vehicle No.
Manufacturing	Production	Inno.N	Aug 19, 2022	13:00:00	20.5	654 ABC
Logistics	Package Picked up	Pharma Center (Dongtan)	Aug 21, 2022	10:55:00	23.5	333 DFG
Logistics	Out for Delivery	Pharma Center (Busan)	Aug 23, 2022	10:55:00	22.5	789 HIJ
Logistics	Delivered	Pharma Center (Busan)	Aug 23, 2022	14:30:00	21.5	789 HIJ
Distributor	Package Arrived	Pharma Distribution Z	Aug 23, 2022	14:30:00	27.0	789 HIJ
Request Re-Ship by Manufacturing Manager!						
Manufacturing	Production	Inno.N	Aug 24, 2022	10:00:00	20.5	123 KLM

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Provide Big Data based customized medical logistics service

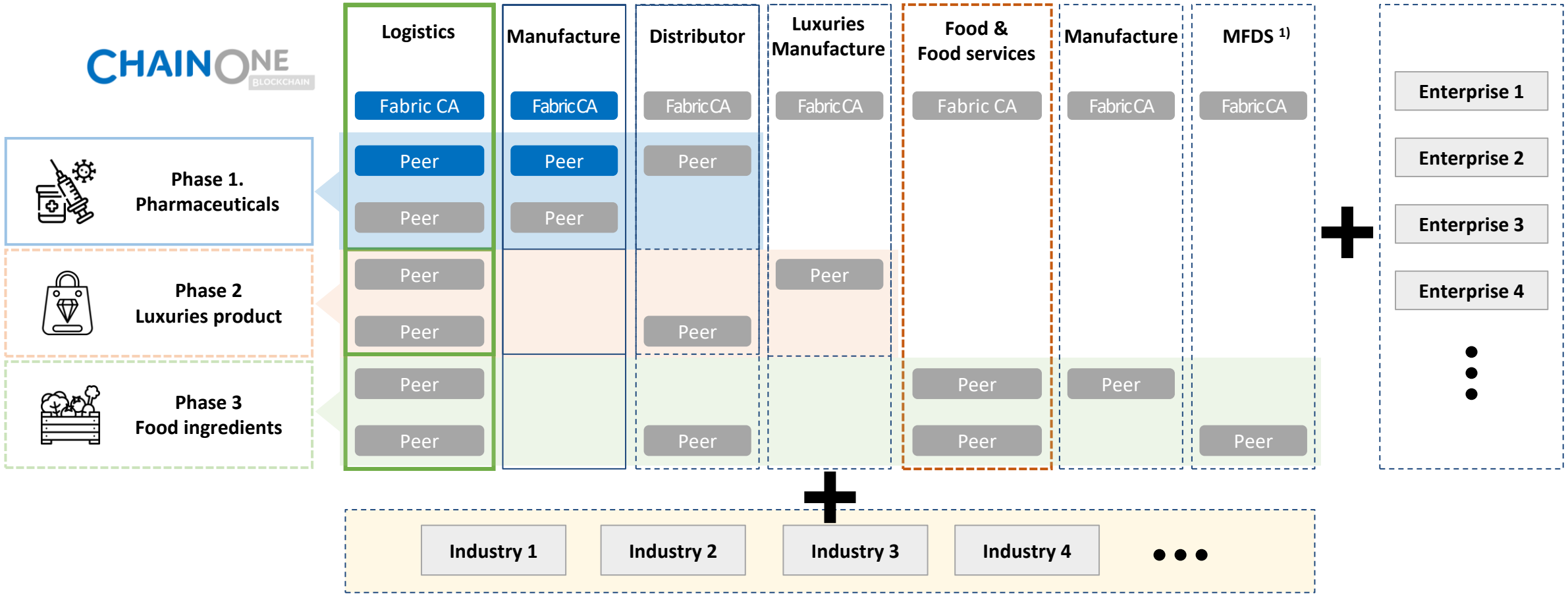


Prompt act with real-time traceability of the product



Improve medicine or vaccine reliability with integrity data

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1) MFDS : Ministry of Food and Drug Safety

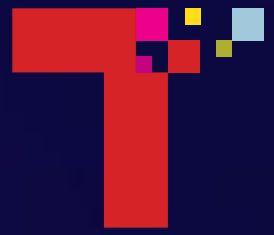
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Thank You

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Customer story:
Toyota Connected North America

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TOYOTA
connected

Data science

Machine learning and AI

Safety and convenience

Mobility

Web3

Why Web3?



GREATER ENGAGEMENT



CAPTURING NEW AUDIENCES



IT’S ABOUT THE LONG TERM

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2022 Lexus Performance Driving School

850 Participants

19 Event Days

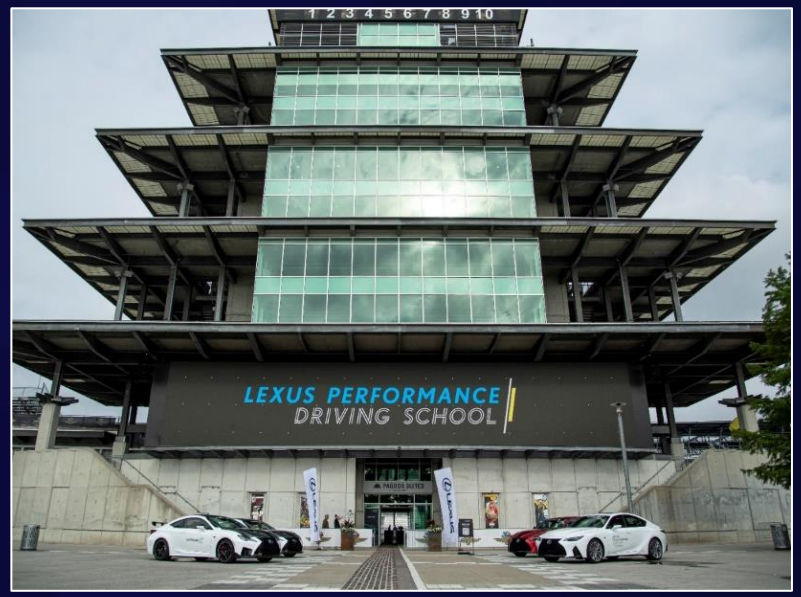
5 Iconic Racetracks





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130

Participants

Average Weekend

3

Driving Events

Autocross | Skidpad | Lead/Follow

3

Lexus Vehicles

IS 500 | RC F | LC

Unique Value

Key Data Attributes



Skidpad

- Lateral G
- Yaw Angle
- Wheel Speed



AutoX

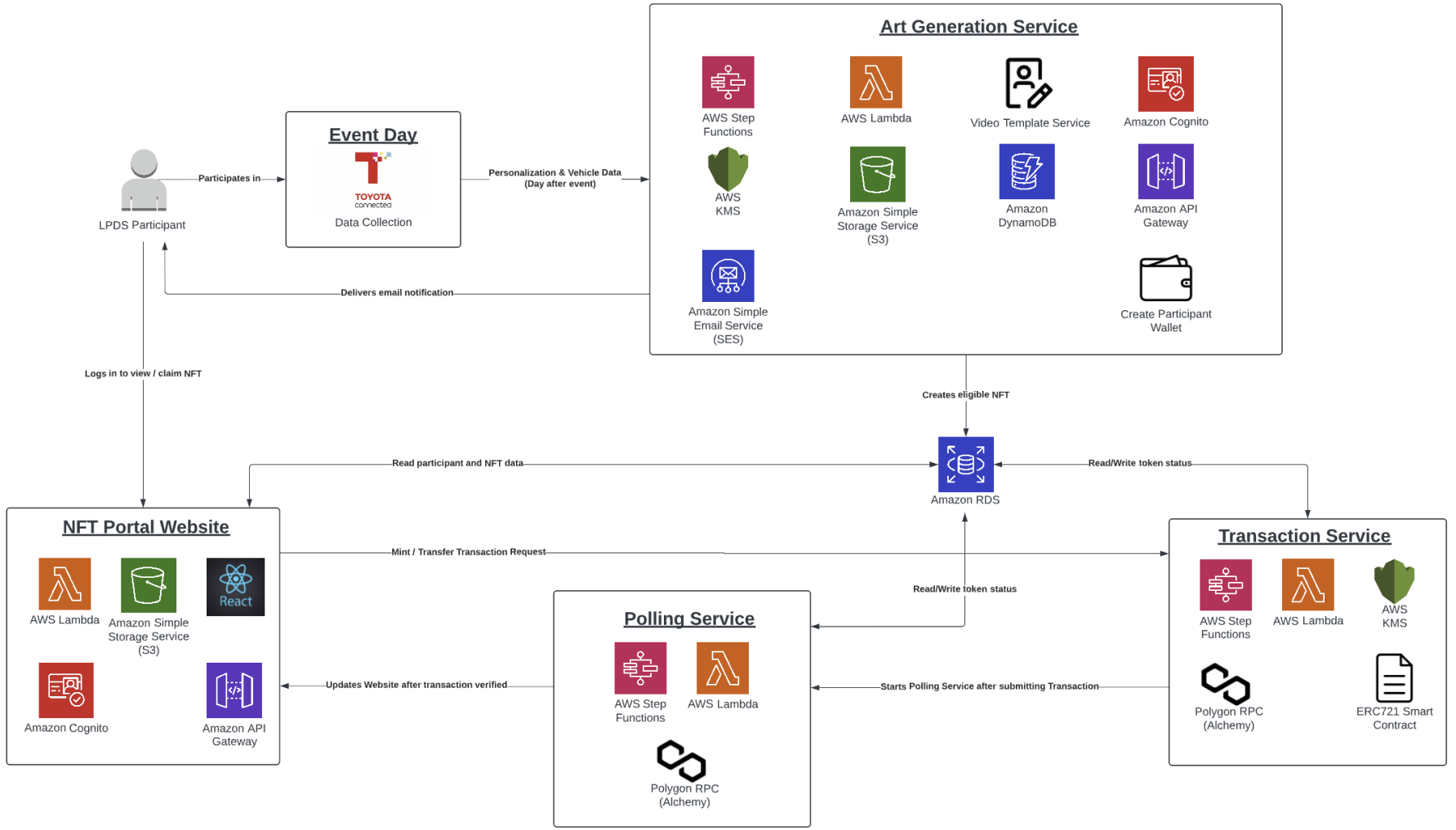
- Lap Time
- Top Speed
- Average Speed



Open Track

- Lap Time
- Top Speed
- Average Speed

Lexus Performance Driving School NFT architecture overview



TOYOTA connected

LEXUS PERFORMANCE DRIVING SCHOOL

Web2.5

1. Email



Thank you for participating in Lexus Performance Driving School!

You have been awarded an NFT for the event

CLAIM NFT

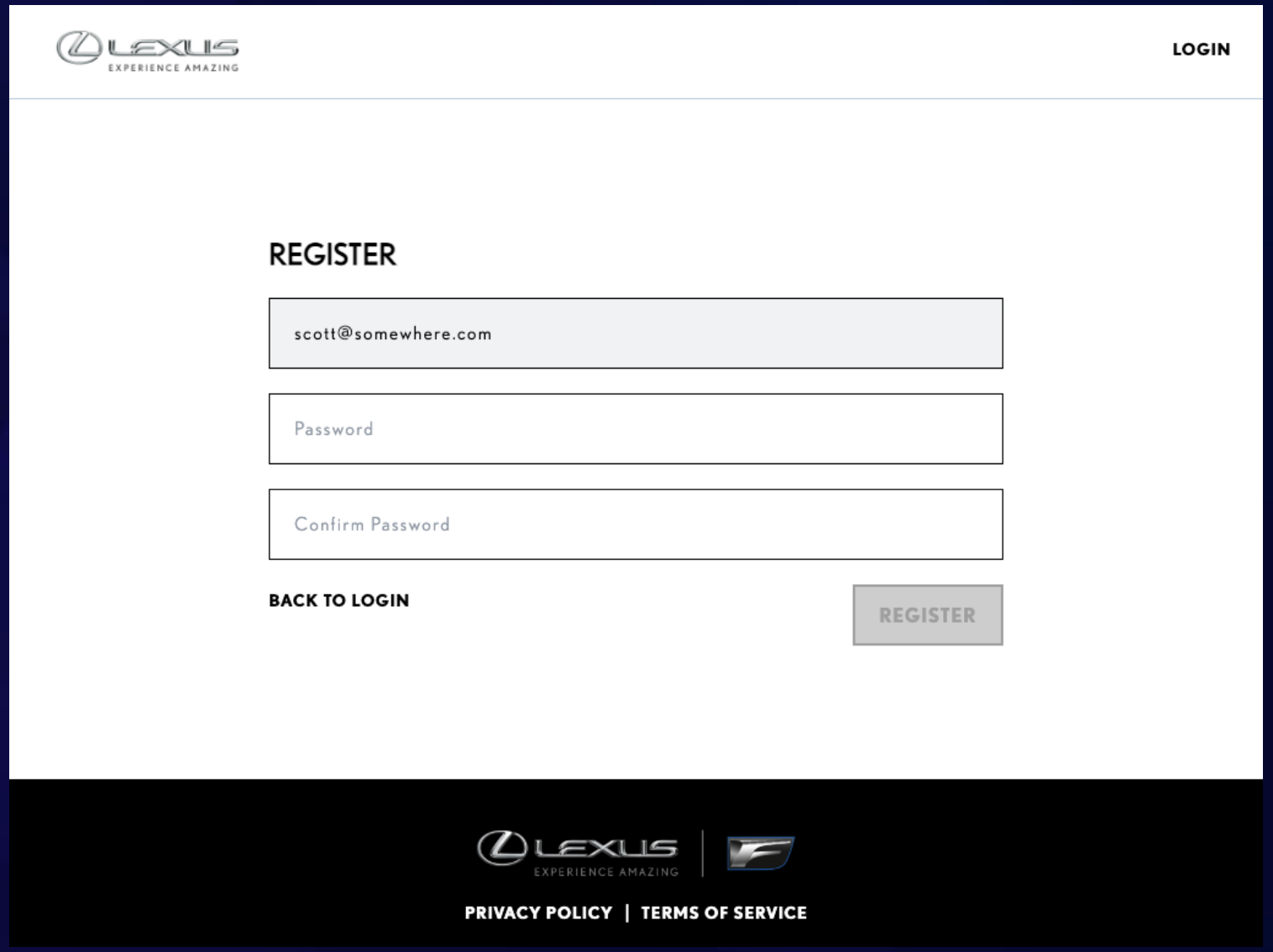
LEXUS
EXPERIENCE AMAZING

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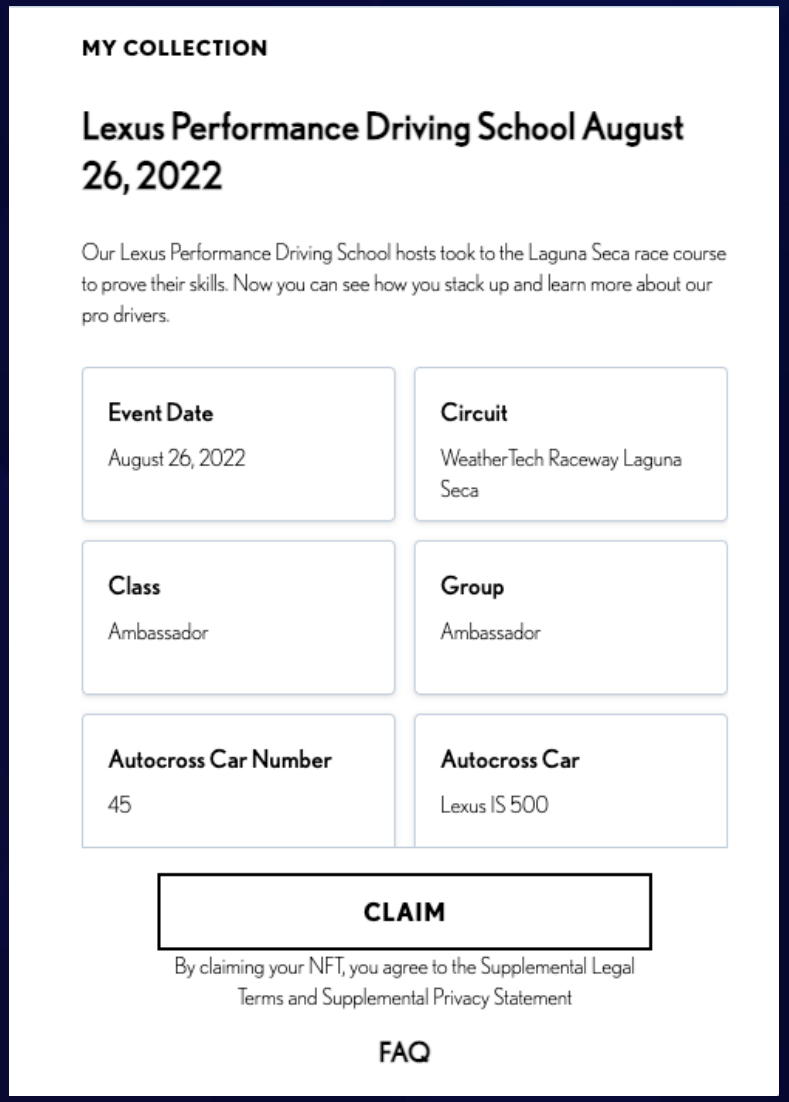
Web2.5

1. Email
2. Register



Web2.5

1. Email
2. Register
3. Claim





RC F



WEATHERTECH RACEWAY LAGUNA SECA
SKIDPAD

65.294 MPH	66.083 MPH
WHEEL SPIN (R)	WHEEL SPIN (L)
0.959 G	7,352 RPM
G FORCE	MAX RPM

LP DS

IS 500



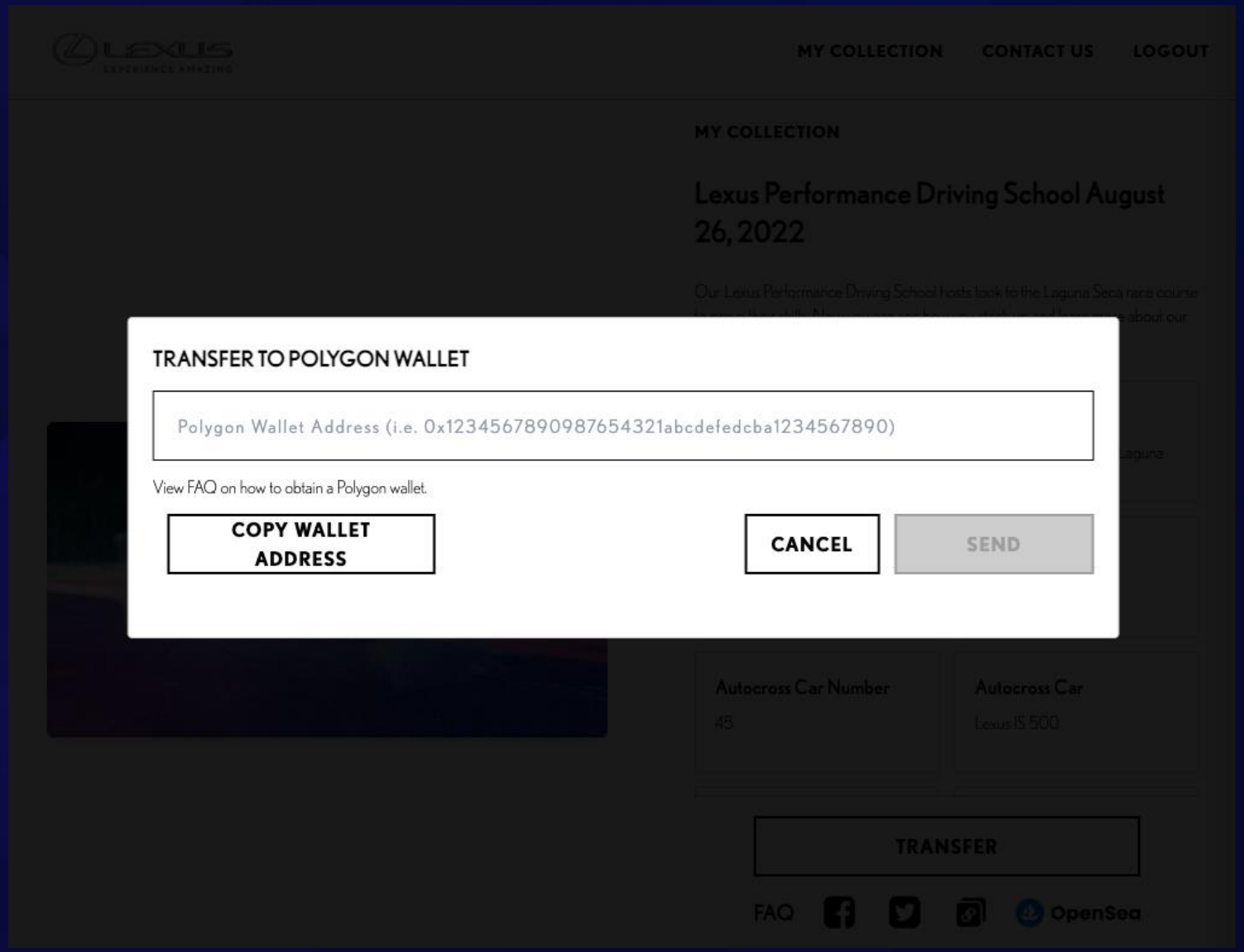
WEATHERTECH RACEWAY LAGUNA SECA
AUTOCROSS

34.043 SECONDS	52.102 MPH
FASTEST LAP	TOP SPEED
5,672 RPM	106.6 BAR
MAX RPM	MAX BRAKE PEDAL

LP DS

Web2.5

1. Email
2. Register
3. Claim
4. Transfer



Outcome

100%	Excited or Very Excited
80%	Registered Engagement
50%	Claimed & Minted
10%	Transferred to their own wallet

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Learnings

Talent

No one cares about NFT

Fundamentals of business are unchanged

The ecosystem has some rough edges

Navigating the industry noise

To be successful, everyone has to benefit

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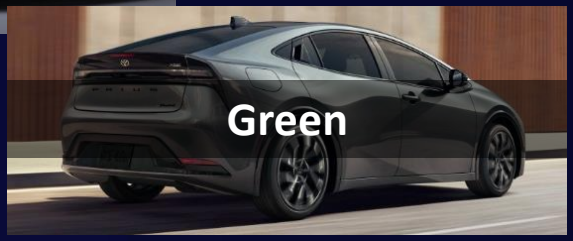
Vision – Brand Engagement

- Create portfolio based on consumer interests
- Deepen relationship with customers
- Expand NFTs to existing engagement experiences
- Reward & incentivize returning to the brands





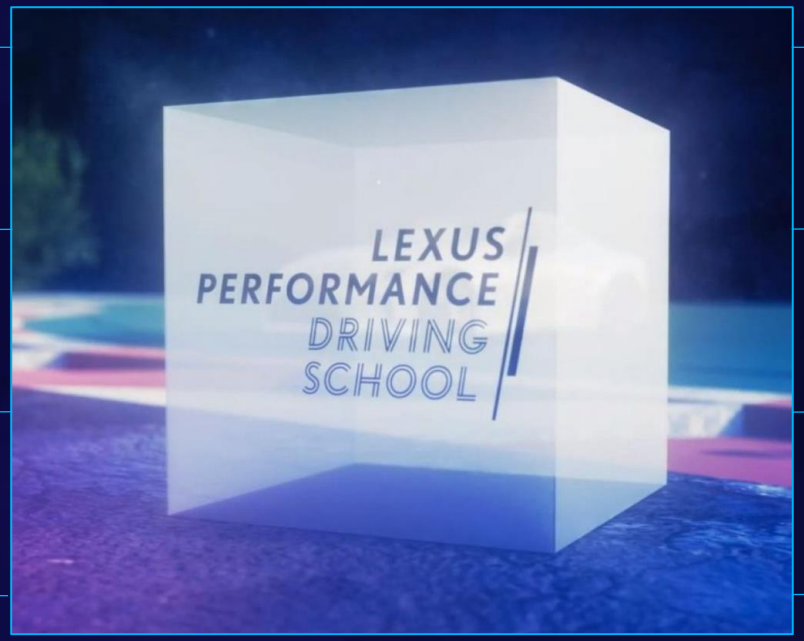




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Extensible Customer Value

- Gaming
- Aftermarket
- Physical Token
- Cross-Brand



- Motorsport
- Luxury
- Product Launch
- Green

External ⟷ Internal

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TOYOTA
connected
THANK YOU

Thank you!



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