



IDEX Biometrics

Capital Markets Day
13th September 2022



Agenda



PROGRAMME

10:00-10:30	Registration, Coffee and Product Demos
10:30-11:50	IDEX Update and QA
12:00-13:00	Partner Panel Discussion
13:00-13:15	Concluding Remarks
13:15-14:00	Buffet Lunch and Product Demos

IDEX Biometrics

A complete platform for Biometric Authentication Solutions



**Vince
Graziani**

CEO



**Catharina
Eklof**

CCO



**Hakan
Acar**

SVP Sales



**Jerome
Chavanel**

VP Product

(Demo video not included in presentation slide file.)

IDEX solution strategy



Payment and digital authentication

Turnkey products to accelerate time-to-market

Card operating system

Proprietary platform to enable IDEX products and solutions

Biometric components and software

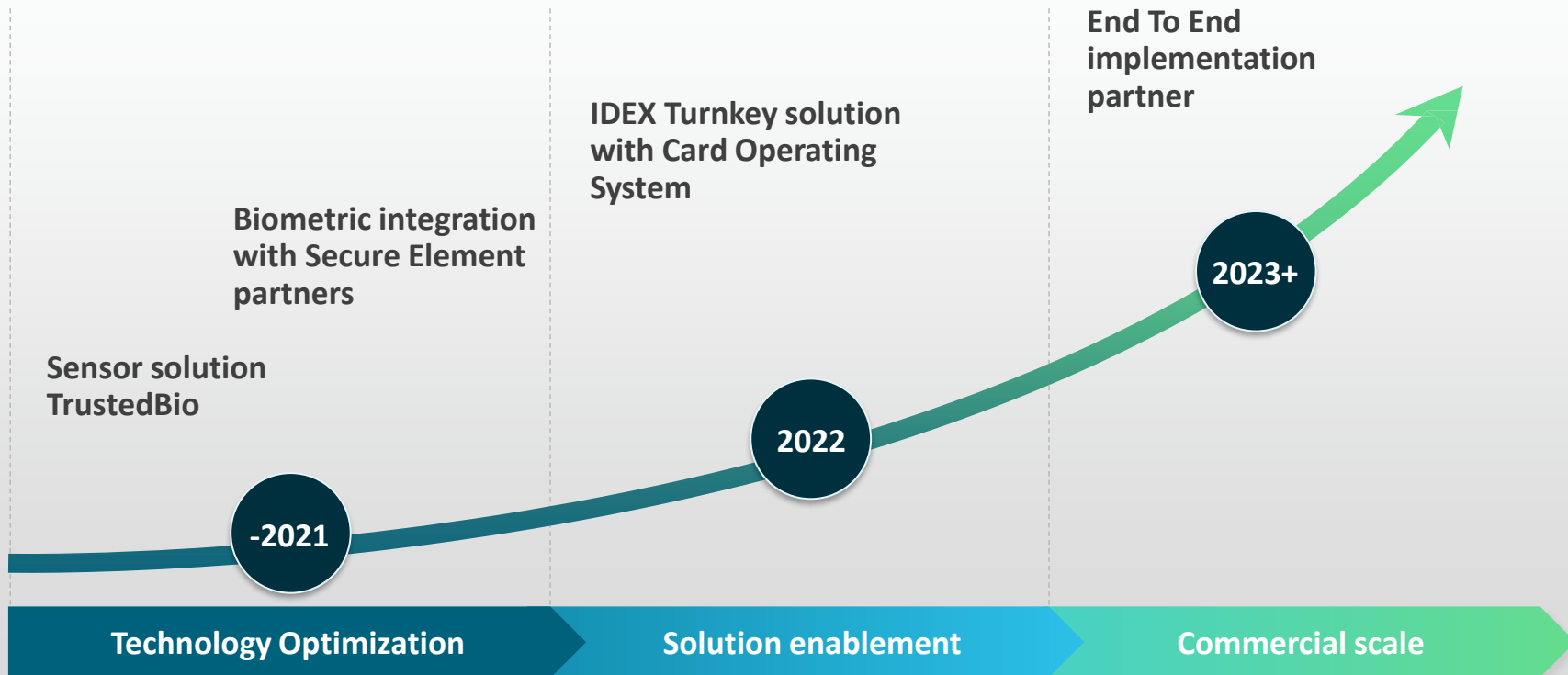
Industry pioneer in biometric authentication solutions



Targeting the massive addressable market for biometric smart card market of

>3B units per annum

IDEX company roadmap

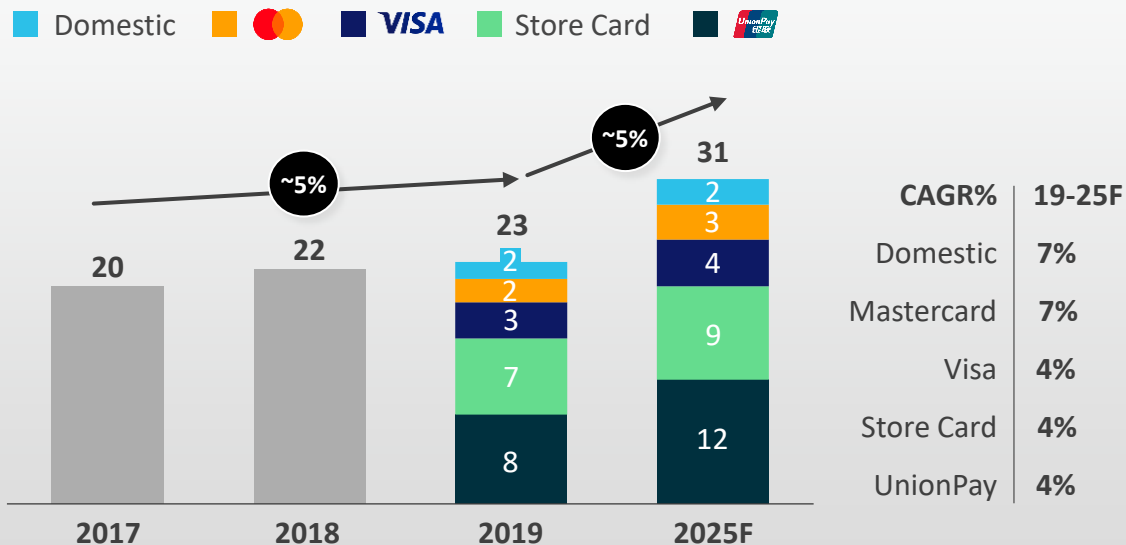


Cards continue to grow globally



Payment cards in circulation globally by issuing scheme

BN¹, 2017-2025F, CAGR %



Key insights

- ➔ **Steady growth** for payment cards
- ➔ **65%** of all transactions are **in store**
- ➔ **50%** of payments in store with **physical cards**
- ➔ **60 % contactless transactions in Europe**

1) Number of credit, debit, prepaid and charge cards in circulation worldwide. Domestic-only brands include RuPay (India); Star, Pulse, Nyce, and Accel (U.S.); Elo (Brazil); Mir (Russia); BC Card (South Korea); Shetab (Iran); Eftpos (Australia); Cartes Bancaires (France); and Girocard (Germany). Private label credit, debit, and prepaid products are usable only at particular retail stores | Sources: Nilson Report, Global Payments Report FIS, 2022. ACI Report 2022.

Stakeholder benefits of biometrics



Cardholder



- ➞ Convenience
- ➞ Peace of mind
- ➞ Improved security
- ➞ Safeguarded privacy

Issuing Bank



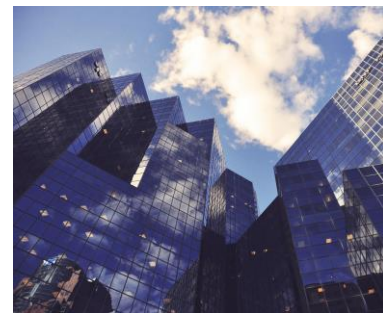
- ➞ Fraud reduction
- ➞ Customer satisfaction
- ➞ Top-of-wallet
- ➞ New customer acquisition

Merchant



- ➞ Seamless acceptance for higher purchase amounts
- ➞ Less friction and declines
- ➞ Decreased chargebacks

Acquiring Bank



- ➞ Improved check-out
- ➞ Authentication options for merchants

Global consumer research confirms demand for biometric payment cards



80%+

of consumers across
14 markets find **biometric**
cards convenient and secure



Brazil
88%



Germany
80%



KSA
87%



Singapore
82%



Canada
81%



Norway
84%



India
92%



Australia
73%



USA
69%



Sweden
75%



South Africa
86%



UK
70%



Turkey
85%



Mastercard Research: consumers prefer biometric payment over PIN for security and convenience

Biometric smart cards

Market Update



Addressable market

- ➞ > 3 BN cards per year
 - >2.4 billion payment cards - CAGR ~5%
 - > 1 billion access and ID cards - CAGR ~10-20%
- ➞ 40M payment locations fully enabled for biometrics globally



Market momentum

- ➞ Consumers confirms the demand for Biometric Payment Cards
- ➞ Increasing numbers of launches
- ➞ Manufacturers are investing
- ➞ Safeguarded supply chain



Current headwinds

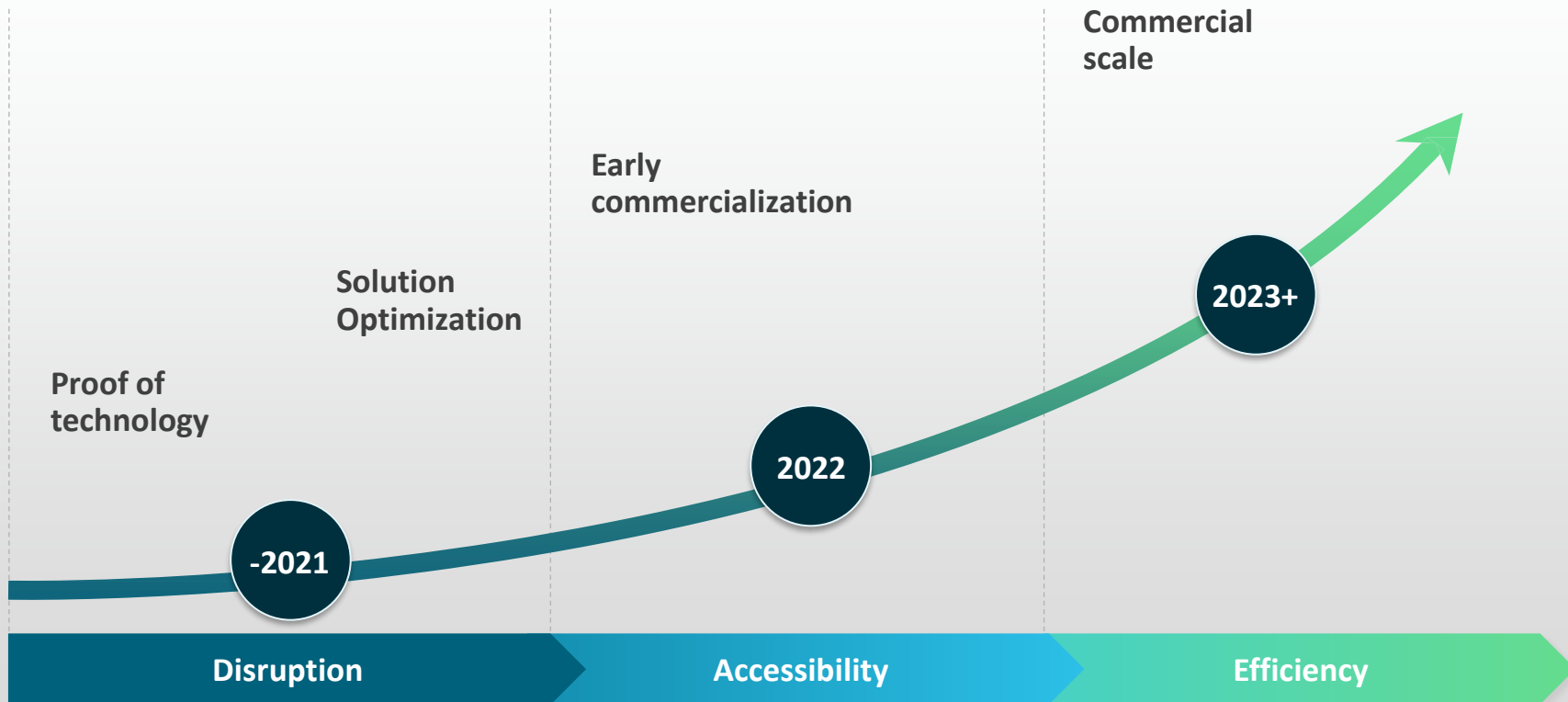
- ➞ Chip component shortage for dual interface cards
- ➞ China lockdown – lead times
- ➞ Geopolitical instability and recession looming



IDEX solutions enable accelerated market adoption



IDEX positioned for market inflection towards biometric payment cards





Disruptive products and solutions

A complete platform for biometric authentication solutions

IDEX product and solutions



Hardware



Largest sensor in the industry to enable high performance with lowest power

Software



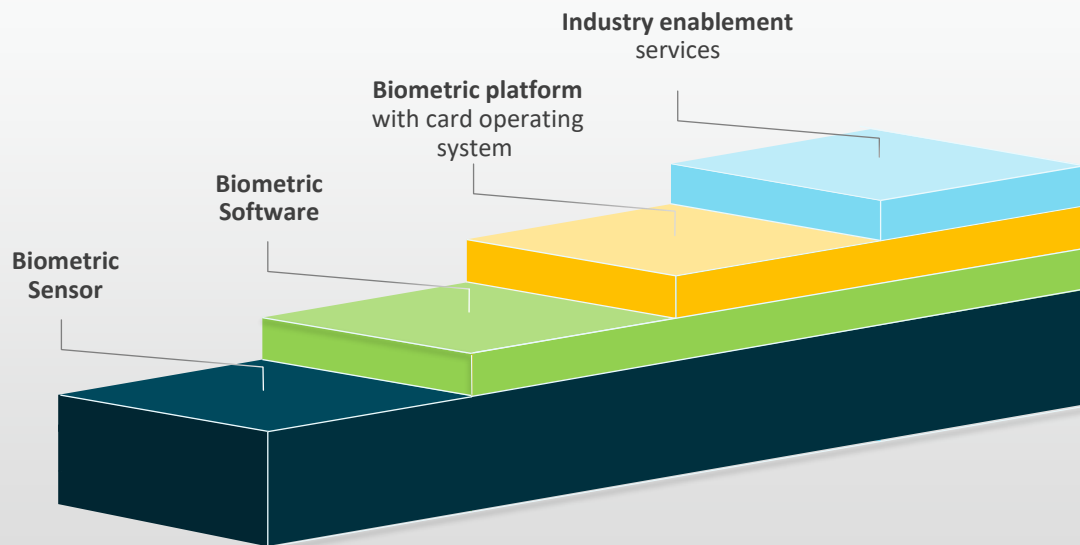
Anti-spoof and matching algorithm outperforming the payment scheme standards

Services



IDEX Customer Lab,
Ready-to-launch
solutions and API library

Evolving IDEX Solution Offering



Strategic benefits

- ➞ Leverage core investments
- ➞ Ensure consistent and secure user experience
- ➞ Complete solutions for payments and digital authentication
- ➞ Efficient industry enablement for manufacturers
- ➞ Accelerated market activation

IDEX Technology advantage



Largest Sensor

- >200 patents protecting our core technology
- Image size and industry leading technology drive best user experience



Fully Integrated Biometric System

- Only Secure Element and Sensor, no additional component required for efficient manufacturability



Sensor Technology Flexibility

- The IDEX breadth of solutions brings us independence and flexibility
- Unique architecture enables IDEX to select the most relevant silicon technology

IDEX technology platform enables multiple use-cases



Our biometric technology drives new applications

Payment (card present and card not present)

Digital authentication

Digital access (Physical/Logical)

Digital wallets
Crypto / CentralBank Digital Currency

Protecting multiple value streams with one card

Digital authentication represents a \$53 billion market

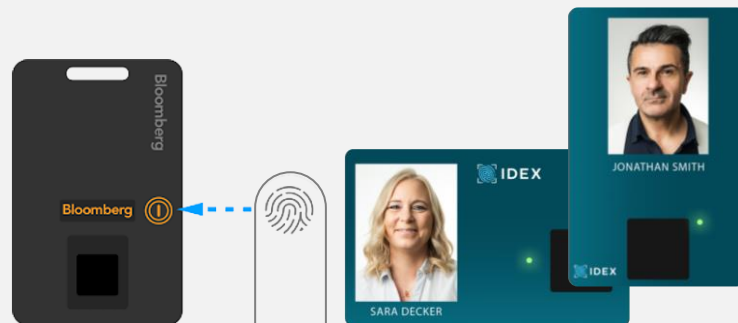


Opportunity

- **\$172B** is spent on Enterprise Cyber Security in 2022
- Cost from ransomware attacks expected to grow >13x in the next 10 years, from \$20B in 2021
- Cyber threats top the concerns among enterprises
- **19%** of cyber attacks due to **credential thefts**
- **>59%** of organizations have not implemented a ZERO trust strategy

IDEX Response

- Unique biometric card solutions for digital authentication and step-up security
- Partnering with the worlds most innovative leaders in design and manufacturing of biometric authentication solutions



IDEX goes to market with innovation leaders



Digital Access (Including Multi Factor Authentication)



Digital access

- High value subscription
- Secure access and authentication



Digital Wallets (Hardware/Token)



Digital wallets

- Crypto currency
- Digital currency (CBDC)





Commercial acceleration

Biometric smart card market is building up across regions



Europe

**23% of the global card payments value
> 6 bank launches live and foreseen in 2022**

- ➞ Rollouts driven by Tier1 and challenger banks
90%+ of eligible payments are contactless
- ➞ Leading manufacturers now in production

Asia-Pacific

**43% of the card payments worldwide, with strong
mobile payments growth**

- ➞ Strong interest from India, Japan, Korea, Malaysia, Vietnam – Manufacturers
- ➞ Government ID requirements

Latin & South America

**Strong growth in payment cards, BR CAGR: +36%
Brazil & Mexico planned launches of payment cards**

- ➞ Launches coming with traditional banks
- ➞ Fraud and Regulatory policies drive use cases

MENA

**Strong growth in payment cards, CAGR: +16%
> 10 launches live and foreseen in 2022**

- ➞ Drivers: fraud and convenience
- ➞ Segments: affluent and financial inclusion

Banks are launching, Europe and Middle East as front runners



IDEX accelerates launches during H2 according to plan

H1 2022 in Market

- **Rocker, Sweden (IDEX)**
- **Manager.one, France (IDEX)**
- BNP Paribas, France (FPC)
- Credit Agricole, France (FPC)
- Pocztowy Bank, Poland (FPC)
- BMCI BNPP, Morocco (FPC)
- JKB, Jordan (FPC)

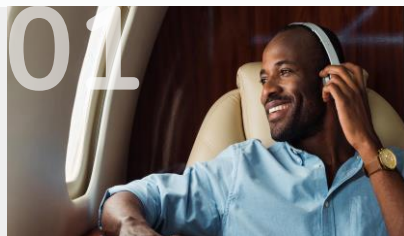
H1 2022
7 launched
globally

H2 2022 in Plan

- **Banks in Iraq (IDEX)**
- **Bank in Jordan (IDEX)**
- **Bank in India (IDEX)**
- **Bank in Thailand (IDEX)**
- **Bank in UAE (IDEX)**
- **Bank in Germany (IDEX)**
- **Bank in France (IDEX)**
- Banks in US, Morocco and Jordan (FPC)

H2 2022
7 launches
for IDEX
planned

Specific bank customer segments are driving early adoption



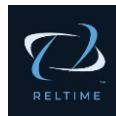
01 Affluent

Frequent and **high networth customers**, travelling and interested in biometric metal cards



02 Tech savvy

Young pros seeking **differentiation** and preferring **challenger banks**



ROCKER



03 Corporate

Clients in need of **stronger security** to conduct **high value corporate transactions**



04 Special needs

People who **struggle to maintain multiple passcodes & PINs** or **unable to use them**



European Blind Union
MEMBER OF EUROPEAN UNION

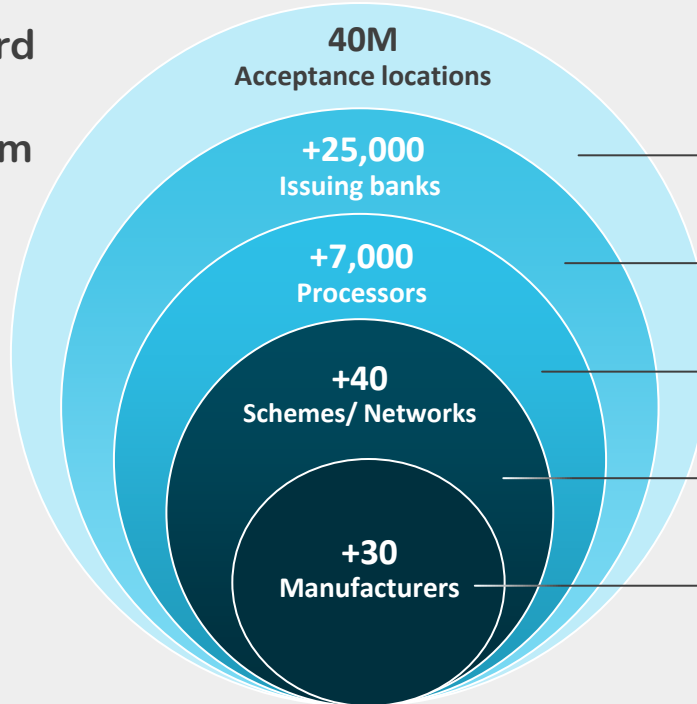


IDEX engages with all stakeholders in the payment eco-system



Accelerated time-to-market and flawless execution

Global card
payments
eco-system



IDEX engagement strategy

- Educate the market
- Demonstrate **business case**
- Partner to secure **enablement**
- Ensure **compatibility** & scale
- Sell and facilitate **journey**

H1 2022 Market specific highlights



EMEA



- Card manufacturers Tag Systems and E-Kart in implementation
- 3 new card manufacturers, 4 processors in commercial negotiation.
- Advanced biometric card project for combined physical and digital authentication
- Tier 1 and challenger banks launches in motion

APAC



- China mandates CDBC wallets IDEX uniquely positioned
- Advanced biometric card project for physical and digital authentication
- Launch planned with Tier 1 bank in Japan
- 2 manufacturers in production and launches foreseen late Q4

Americas



- Strategic partnership for Metal Card with biometrics
- Advanced biometric card project for physical and digital authentication
- Launch with Tier 1 bank in Mexico in progress
- Evaluations in progress with manufacturers in Brazil

Accelerating card manufacturers

Based on engagement with 20+ card manufacturers



Key enablers for success

- Pre-certification
- Re-tooling and production enablement
- Component supply assurance
- Program support for issuers and banks

Prioritized initiatives

- IDEX Turnkey
- Partnerships: equipment makers / component manufacturers
- Secure Element strategic expansion roadmap
- Joint Issuer demand generation



Cardmatix

E-KART



SHOEI

IDEX focus market: Turkey



250 million payment cards

Largest in Europe



1.84 million Point of Sales

Largest in Europe



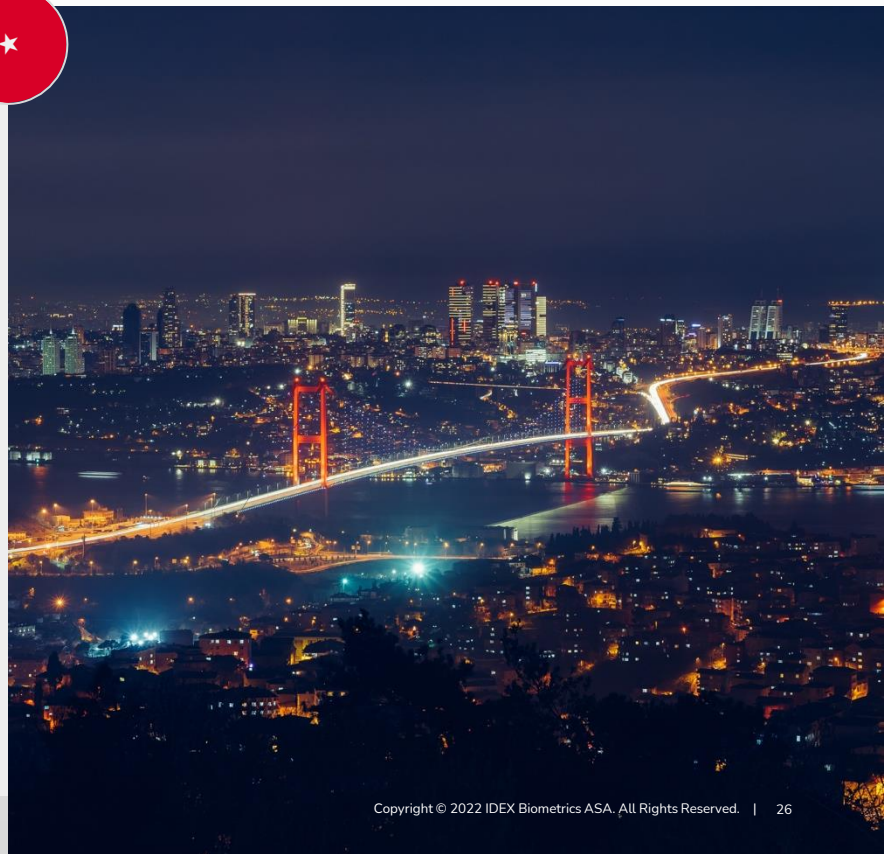
190 billion purchase volume

34% of private consumption expenditure

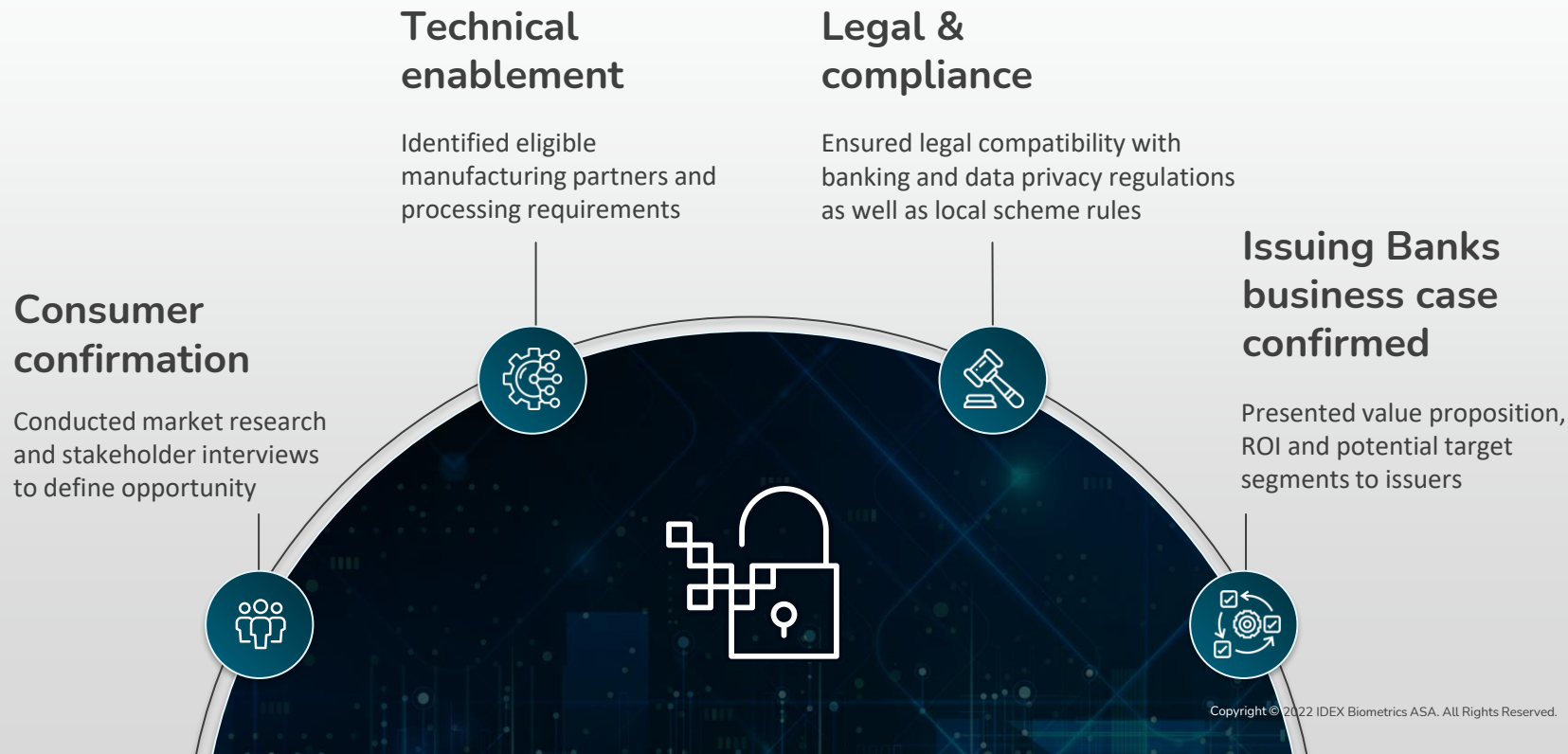


56%

Contactless penetration

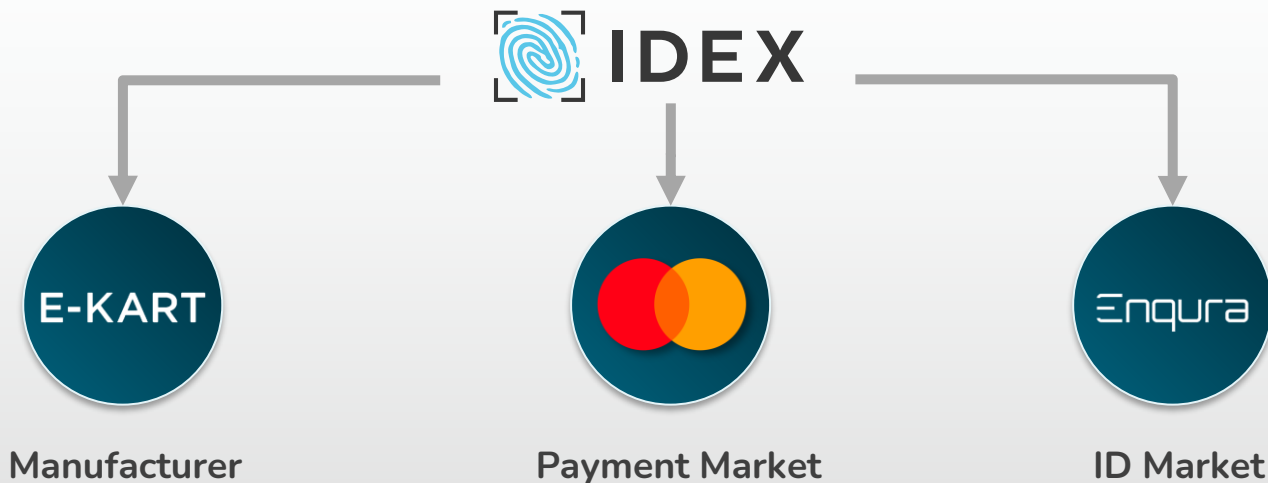


Unlocking a market with a structured and repeatable go-to-market approach



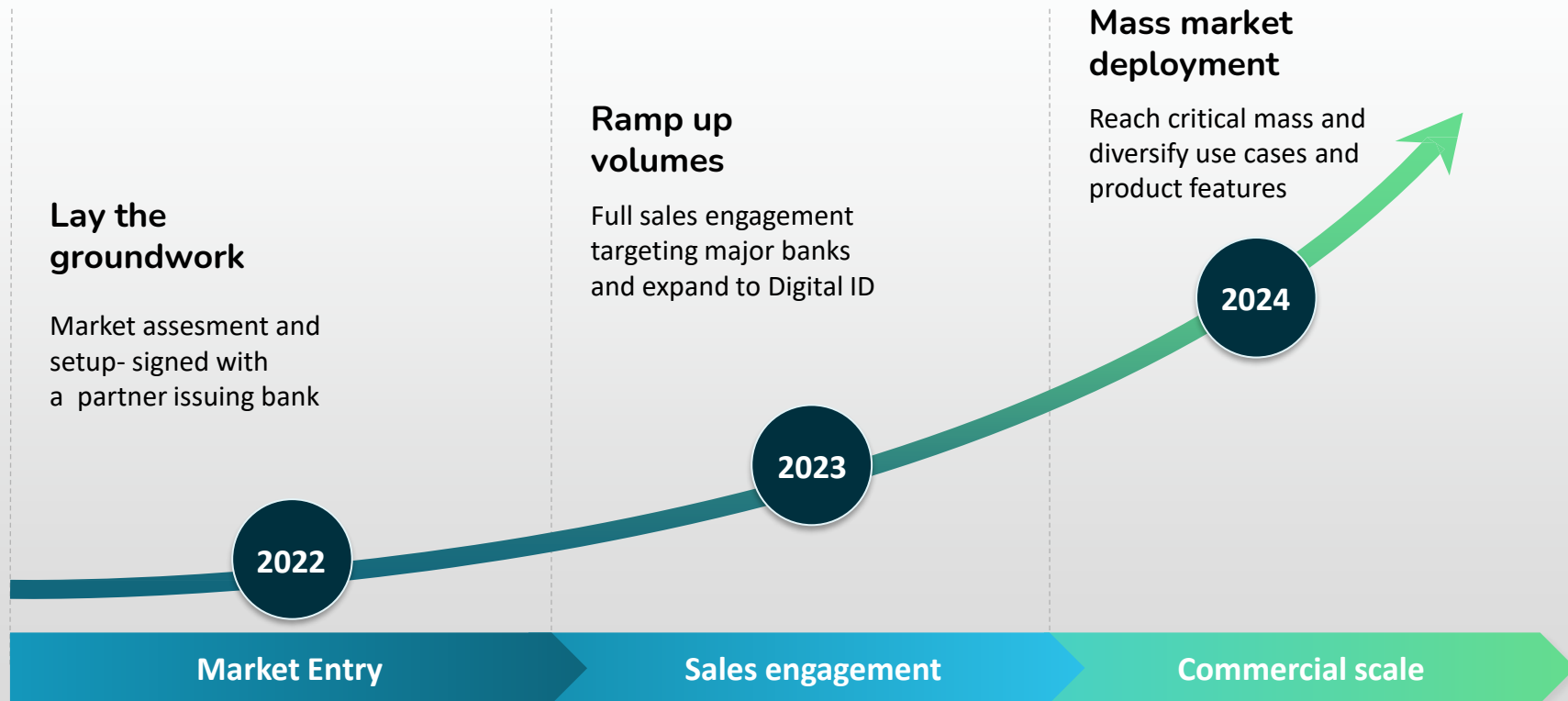
Establishing an ecosystem

Partnership with key players to accelerate market adoption



Access to +200 customers and ~400 MN cards across 11 countries in the region

Turkey: Market acceleration roadmap



A group of business professionals in a modern office with large windows, silhouetted against the bright light. They are engaged in various interactions, some standing and talking, others looking at documents. The scene is reflected on the glossy floor.

Operating business model

Strong operating leverage in long-term model



Potential for extraordinary revenue growth

- Expanding opportunity pipeline
- Rapidly increasing backlog and pending design wins
- Solution sales driving higher margins

Target operating model at scale:

- Scalable fabless semiconductor model
- Long-term goal of 50%+ gross margins
 - Consistent with fabless model
 - Reflects differentiation and solution cost leadership
- Long-term goal of 30% operating margins
- Scalable for sustained cash flow
 - Concentrated customer base limits channel expenses
 - Low CapEx and leveraged OpEx



Summary:



Enabling the next generation of payments and authentication

01

**Multi-billion
market
opportunity**

02

**Industry leading
customer
experience**

03

**Disruptive
biometric
solution**

04

**Capturing
a market
inflection point**



IDEX Biometrics

Thank you