



# Investor Day

04.24.19



# Safe Harbor Statement

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This report includes forward-looking statements. Because such statements deal with future events, they are subject to various risks and uncertainties and actual results, performance or achievements of the Company or the industry in which the Company operates could differ materially from the Company's current expectations.

When used in this report, forward-looking statements, including estimates of capacity, selling price and other material considerations, are identified by words such as "anticipates," "projects," "expects," "plans," "intends," "believes," "estimates," "targets," "can", "could", "may", "might", "will", "would" or other similar expressions that indicate trends and future events.

Although the Company believes that its expectations and the information in this report were based upon reasonable assumptions at the time when they were made, the Company can make no assurance as to the correctness of such forward-looking statements. By their nature, forward-looking statements involve and are subject to known and unknown risks, uncertainties and/or assumptions as they relate to events and depend on circumstances that may or may not occur in the future.

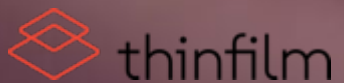
Factors that could cause the Company's results to differ materially from those expressed in forward-looking statements include, without limitation, variation in demand and acceptance of the Company's products and services, the frequency, magnitude and timing of raw-material-price changes, general business and economic conditions beyond the Company's control, timing of the completion and integration of acquisitions, the consequences of competitive factors in the marketplace including the ability to attract and retain customers, results of continuous improvement and other cost-containment strategies, and the Company's success in attracting and retaining key personnel.

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Thinfilm financial reports may be accessed via the following web page:

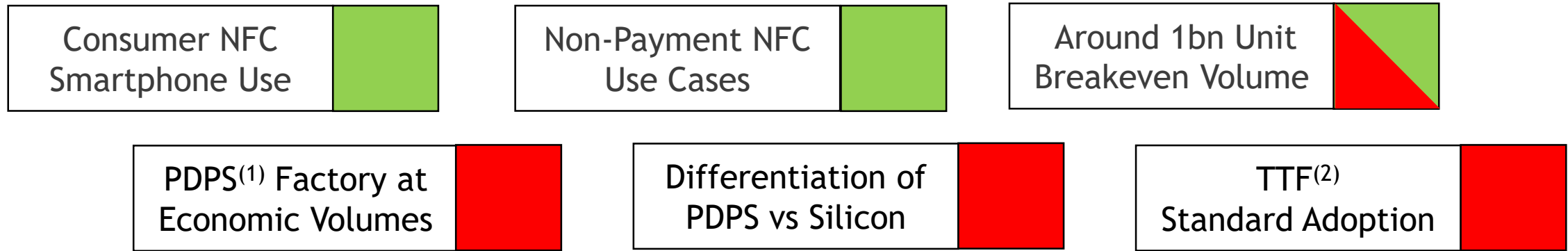
<http://www.thinfilm.no/investor-relations/reports-presentations/>

# Bringing Intelligence and Connectivity to Protect & Engage Brands



# Setting the Stage - Focus and risk reduction

## Strategic dependencies



Business restructuring significantly reduces operational risk

## Going Forward Two Businesses

### Accelerate Solutions Strategy

- Develop 180nm Silicon devices improving margin

### R2R<sup>(3)</sup> Line Monetization Strategy

- Explore potential additional applications for R2R line

# Key highlights

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1.

Restructuring brings \$21m lower OpEx and higher gross margin

2.

New channel partner strategy to achieve scale

3.

New product strategy with unmatched cost and value

4.

Clear path to break-even in 2021

# The Market Leader in Brand Deployments



# Lessons Learned

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## Previous Strategy

## Key Learnings

Broad market focus

Too many vertical markets and use cases

Regional Sales

Siloed approach with limited adoption

Campaign driven engagements

Short duration and small volume deployments

“Go it alone”, direct to brands

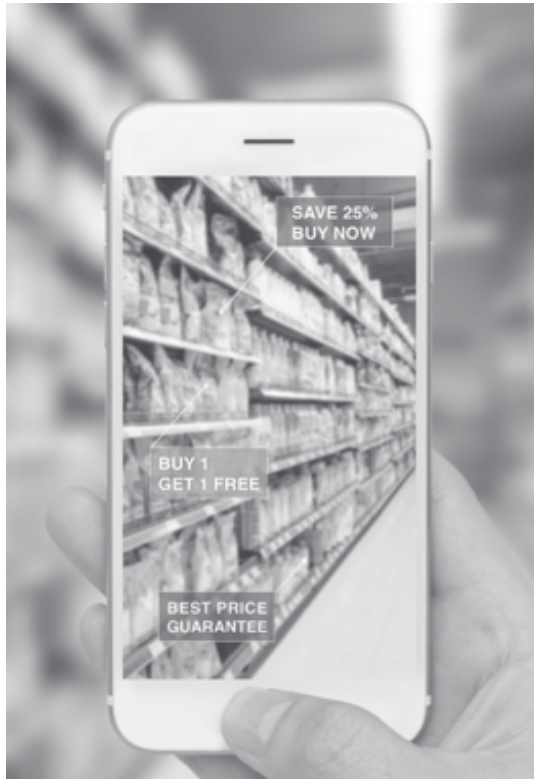
Large sales and support team required

Proprietary NFC manufacturing plant

High OpEx and single product dependency



# Transforming into a fully integrated solutions company



## Huge Opportunity

Brands Face  
Disruptive Challenges



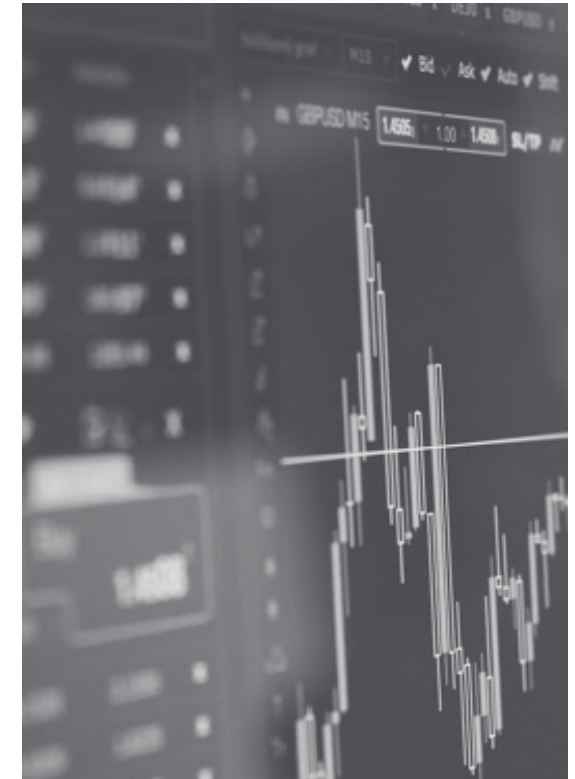
## Strategy

Focus on Vertical Markets  
Scaled Channel Partners



## Solutions

Secure Integrated Solution  
Independent Silicon



## Financials

Lowering Breakeven  
Accelerating Gross Margins



# Opportunity

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# Brands Face Disruptive Challenges

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Counterfeiting  
costing brands  
**revenue** and **trust**



Difficulty  
engaging consumers  
in an **increasingly**  
**noisy world**

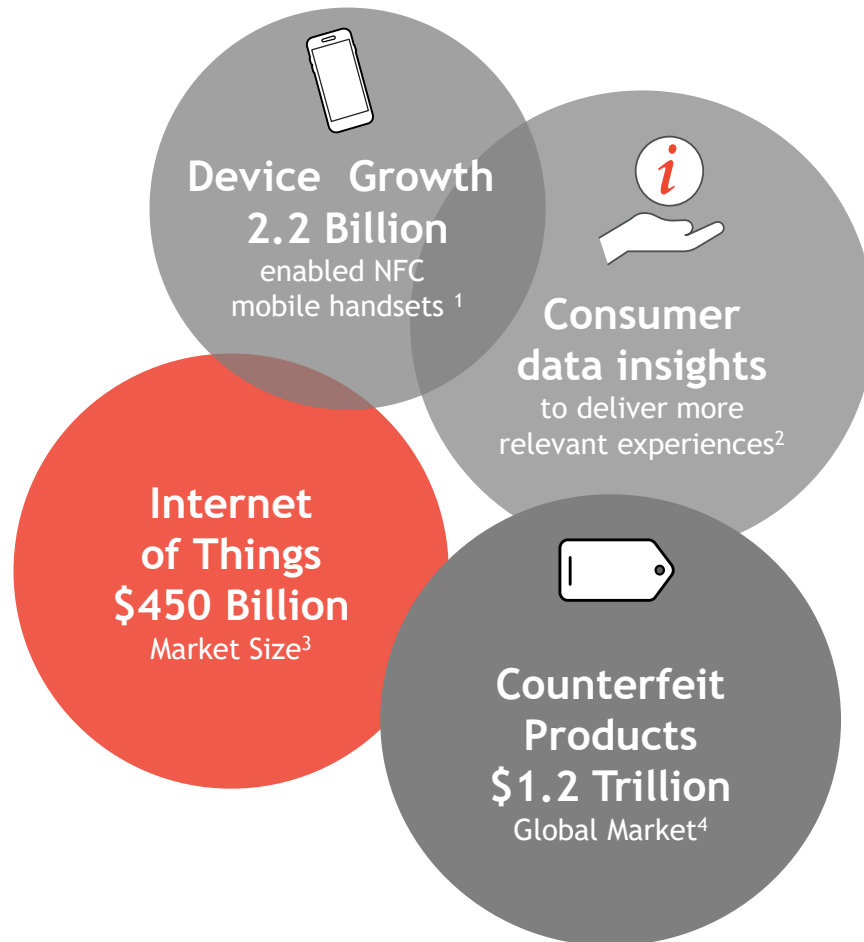


Supply-Chain  
**complexity** is  
reducing product  
**visibility**

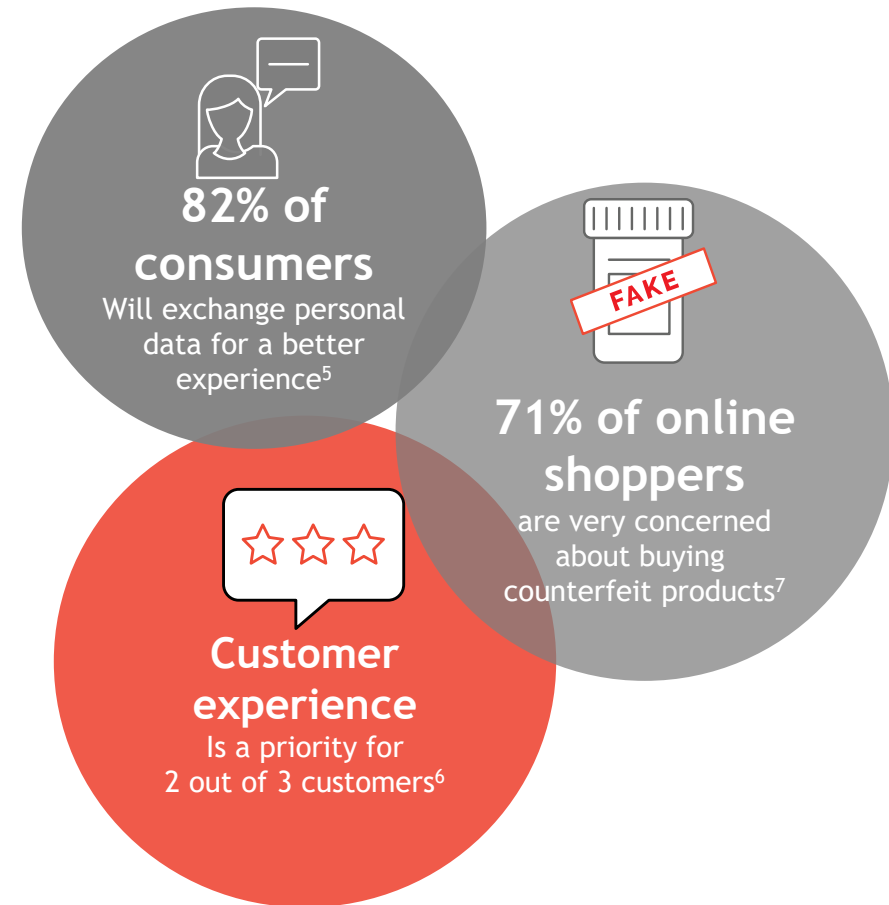
# Growth Drivers



## Brand



## Consumer



# Counterfeiting is a Real Problem



# Brand Authentication Anti-Counterfeit Packaging Market



## Global Anti-Counterfeit Packaging Market<sup>1</sup>

<u>2017</u>	<u>2023</u>
\$96 Billion	\$182 Billion
496 Billion Units	877 Billion Units

## Drivers

- Identifying expired/recalled products
- Protect brand reputation
- Preventing counterfeiting

## Opportunity Gaps

- Lack of effective consumer authentication
- Increase visibility into supply chain
- Remote authentication of products

# Mobile Usage Driving Consumer Online to Offline Behavior



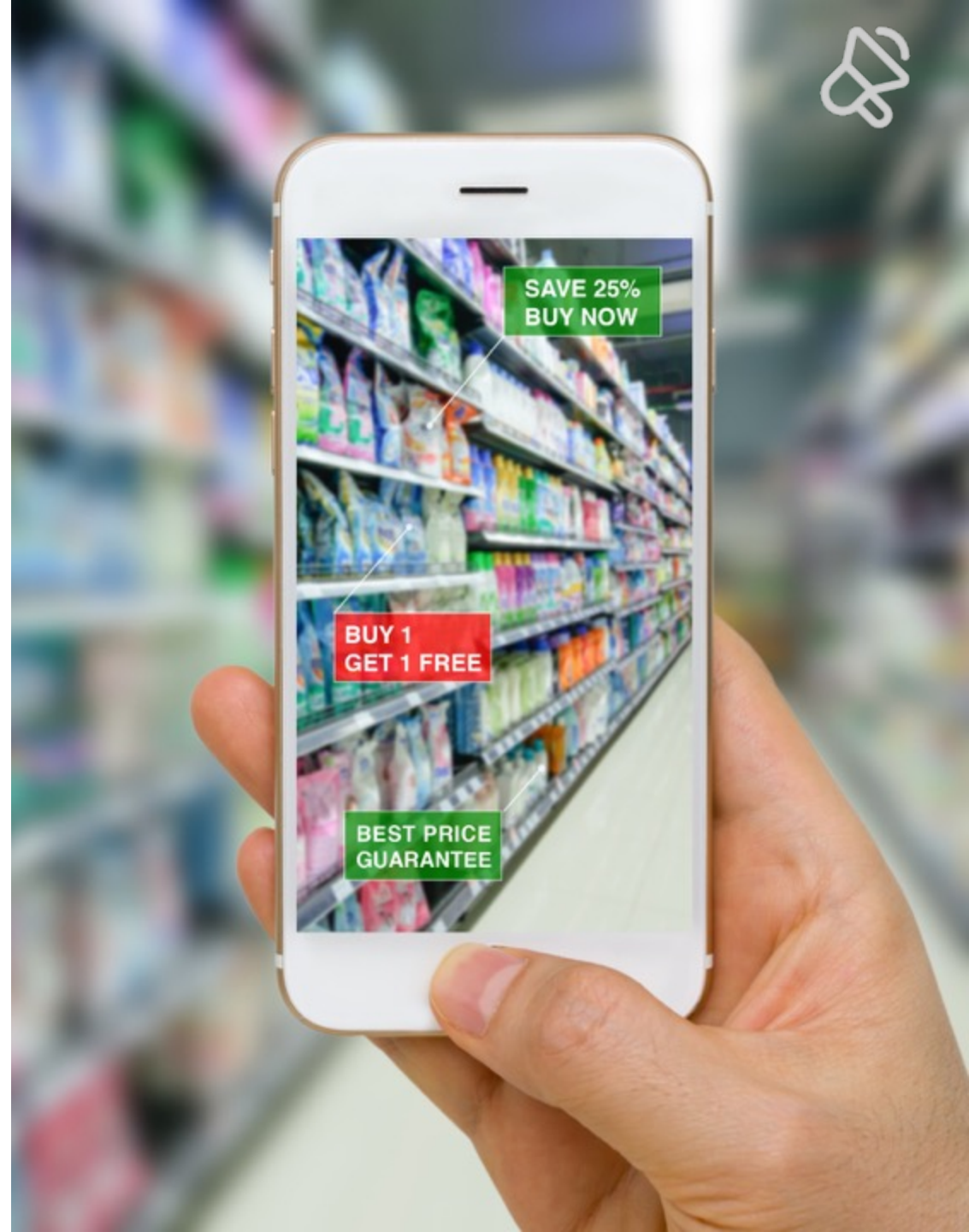
**82 %** of in-store consumers use smartphone when making purchase decisions<sup>1</sup>



**77 %** of in-store consumers seek product reviews<sup>2</sup>



**48 %** of digital ad spend shifting to mobile by 2023<sup>3</sup>



# Physical to digital engagements outperform digital marketing benchmarks



Channel	Digital Marketing Benchmark Conversion Metrics <sup>1</sup>
Display	0.09%
Email	2.4%
Search	2.4%
Social	2.7%
<b>Thinfilm<sup>2</sup></b>	<b>6.5%</b>

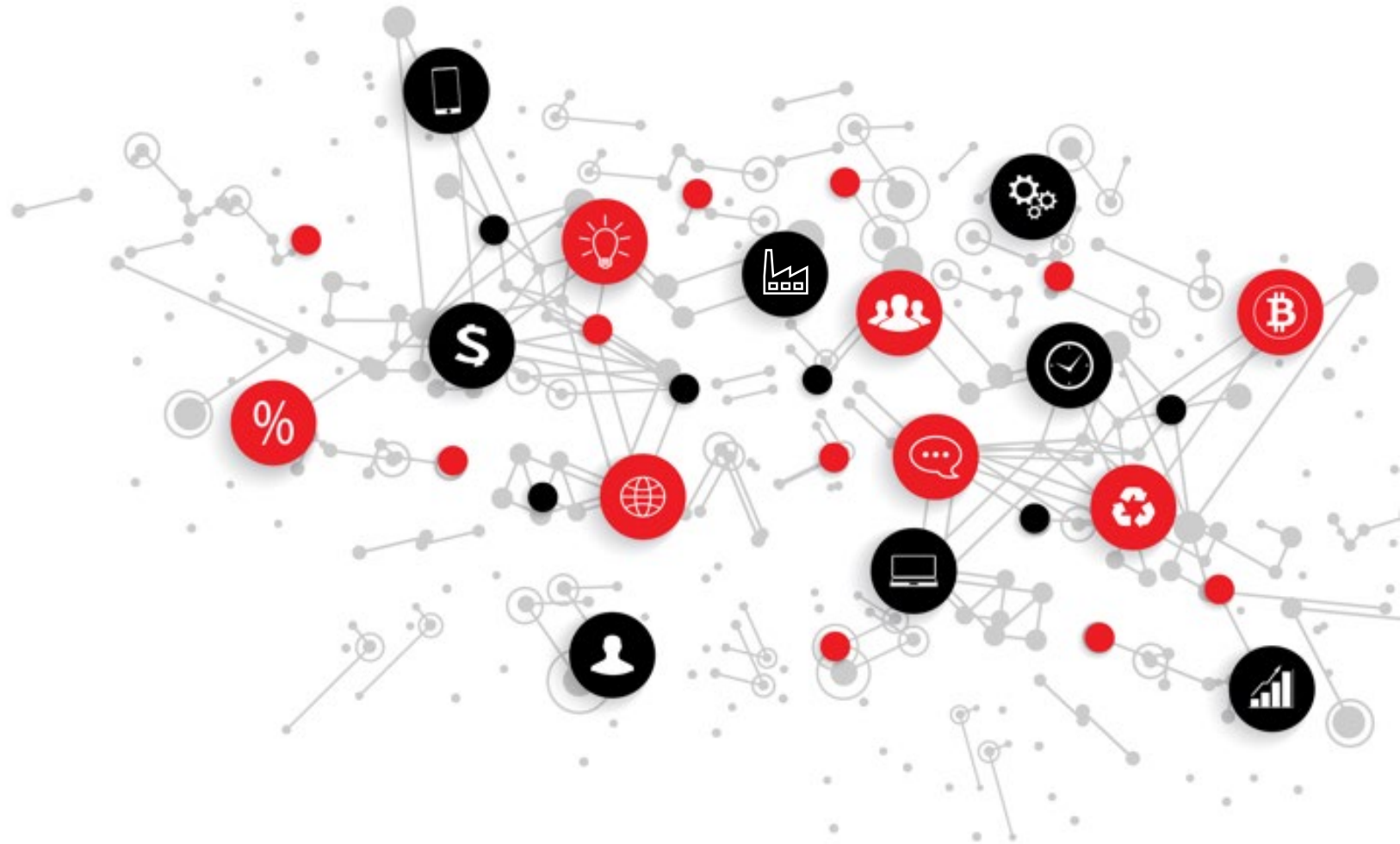


# Two in Three Companies Do Not Have Full Supply Chain Visibility<sup>(1)</sup>



## Problems facing brands

- No product journey insight
- Marketing not synched to product availability
- Reactive inventory management



# Increasing Tap Behavior: From Millions to Billions



## Payment

Apple Pay

1.8B trans./month<sup>1</sup>

1 in 3 in-store payments will be contactless by 2020<sup>2</sup>

Wearables



## Transit

Japan

>1B rides / month<sup>3</sup>

London

>50% Oyster journeys<sup>4</sup>



## Pairing

Bose

Pioneer

Sennheiser

Pioneer

Sony



## Access/Ticketing

Pilot: 6 US

Universities

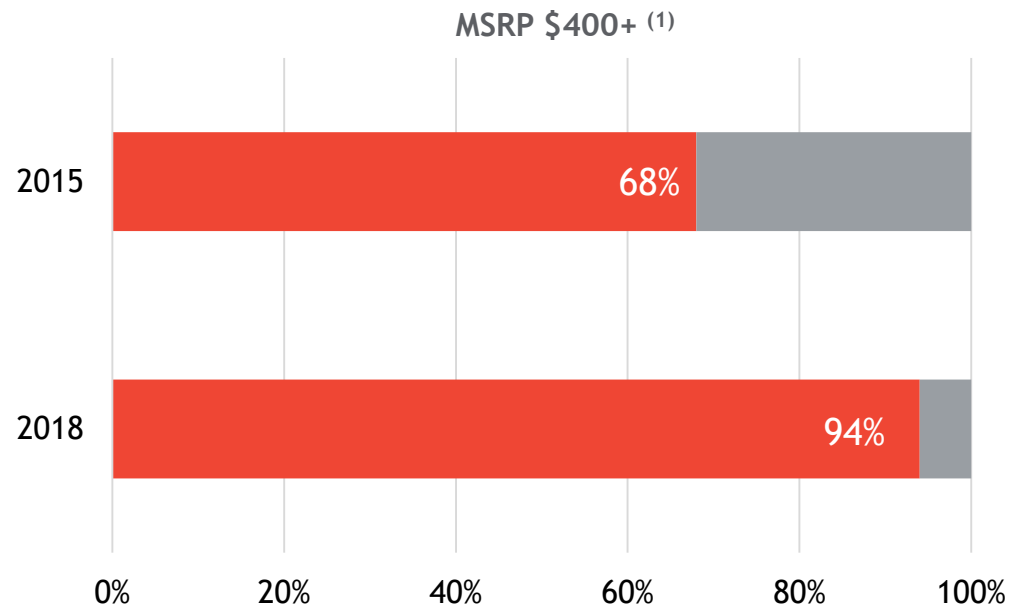
US Baseball

Wembley Stadium

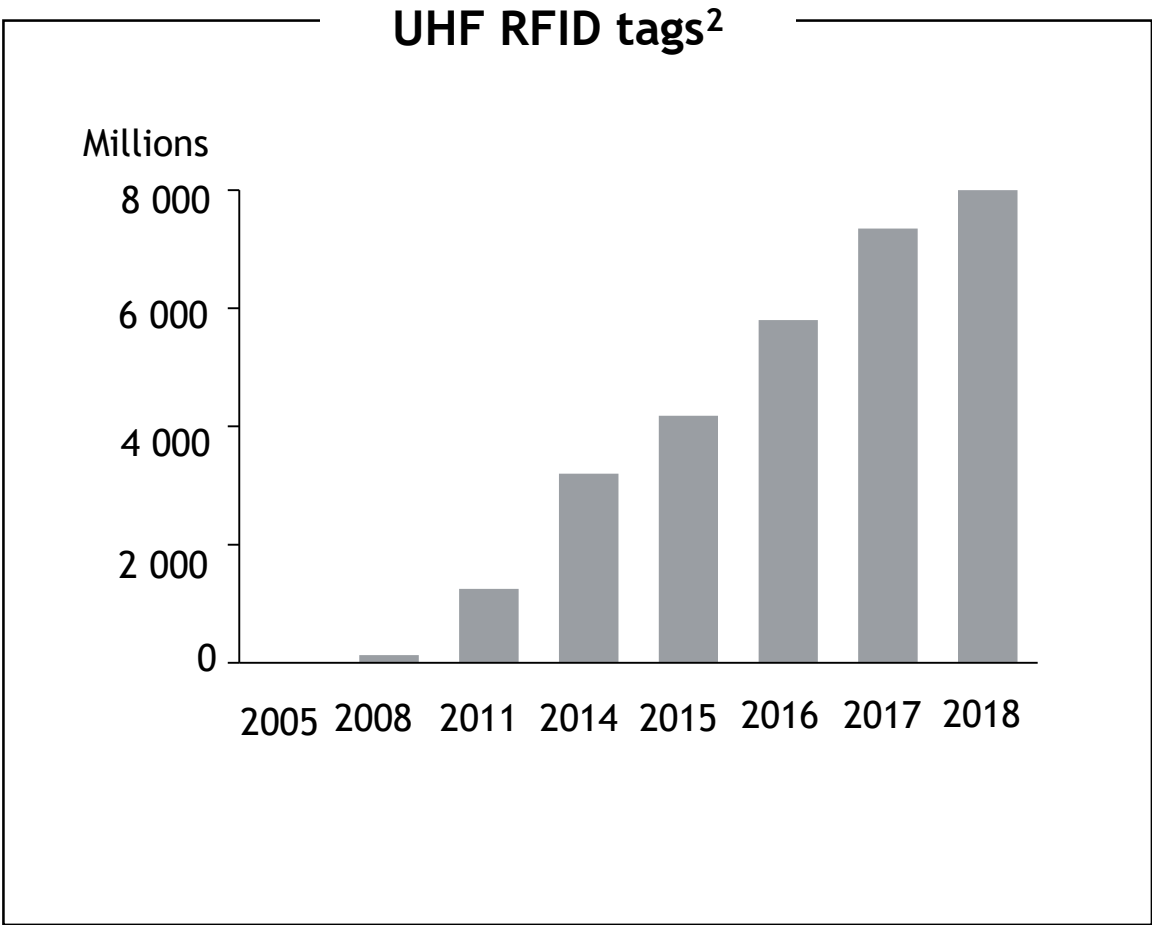
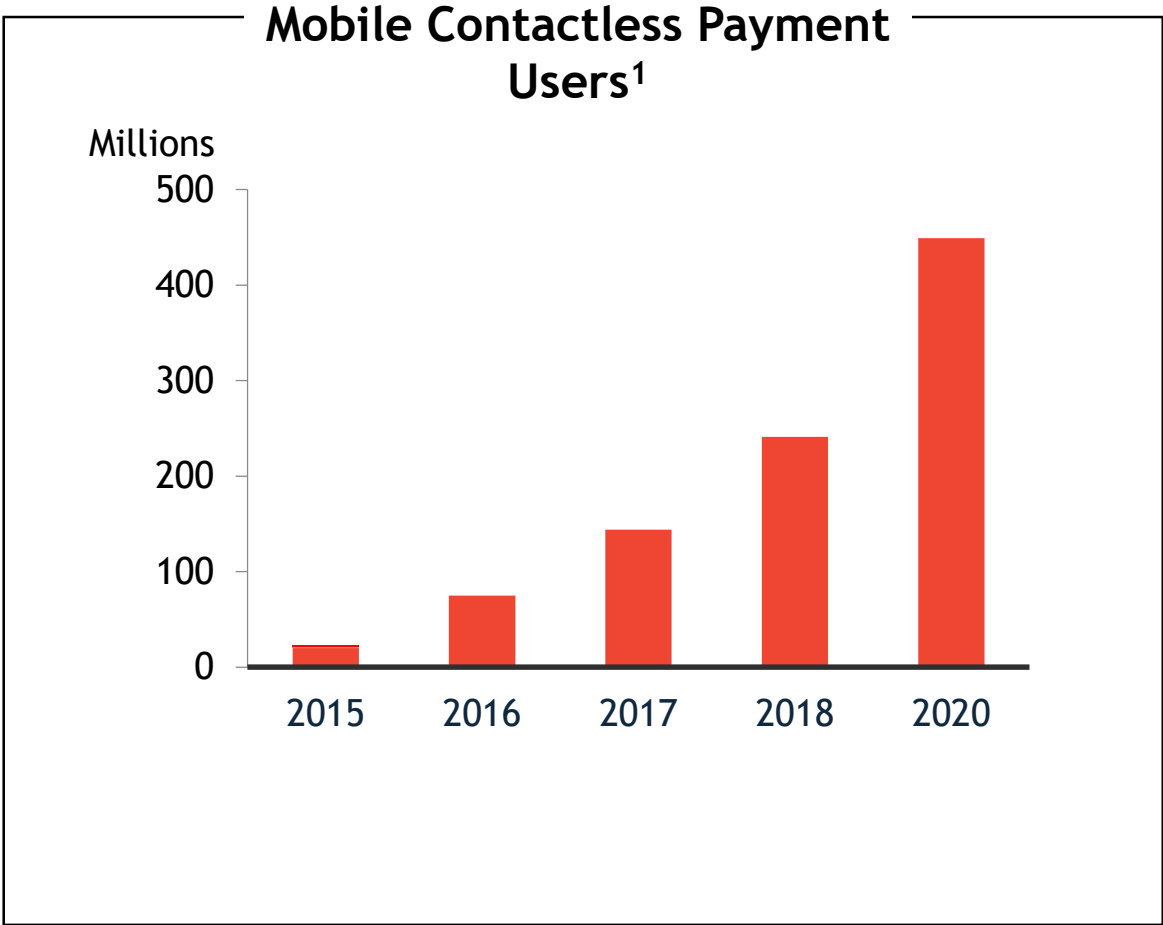
Bayern Munich

# NFC Enabled Phones are Ubiquitous

## Penetration of Worldwide NFC Enabled Premium Smartphones



# At the inflection point of consumer adoption



# Strategy

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# New Strategy

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## 1 Product Solutions Business

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### Go-to-Market

- Scale with strategic channel partner
- Authentication focus for immediate value
- Global approach for strategic adoption

### Solutions

- Leverage solutions market leadership
- Best-in-class integrated secure HW & SW
- Deliver differentiated NFC silicon

## 2 Printed Electronics Business

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- Realizing value from San Jose facility
- Engage beyond NFC to leverage technology
- Maximize independent potential of factory

## 3 Financials

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- Reducing CapEx and OpEx cash requirement
- Improving & accelerating gross margins
- Target of break even in 2021

# Team

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**Kevin Barber**  
Chief Executive Officer

Synaptics, ACCO,  
Skyworks Solutions, Conexant



**Ole Ronny Thorsnes**  
Chief Financial Officer

Orkla,  
McKinsey



**Christian Delay**  
Chief Commercial Officer

Ask Partner Network, Opera Software,  
Obopay, Yahoo and Infospace



**Giampaolo Marino**  
EVP Hardware

NXP, Monolithic Power Systems, Texas  
Instruments, Intersil, and Analog Devices



**Arvind Kamath**  
EVP Technology Development

Kovio,  
LSI Logic R&D



**Matt Kaufmann**  
EVP Operations

Amkor Technology,  
Maxim, Broadcom



**Poorab Shah**  
EVP Software

Adblock, Ask Network,  
MindSpark, Priceline.com



**Shannon Fogle**  
VP HR

Kovio, Spansion,  
AMD



# Optimized Geo-Footprint

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● Strategic sites

● Site closures

# Realizing value from Printed Electronics facility

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## Framework and Process in place

- Engagements with multiple parties
- Structured approach
- Amount invested ~\$37m

## Opportunities in Flexible Large Area Electronics Applications

- Robust TFT
- Flexible Sensors
- Novel Energy Conversion
- Battery - Supercapacitors
- Display/Barriers



# Go-to-Market

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# A Refocused Market Strategy

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## Previous Market Strategy Insights

## New Market Strategy

Broad market focus

Focus on the premium segment of three verticals with the highest opportunity

Regional Sales

Global solutions and strategic approach to business development with industry expertise

Campaign driven engagements

Deliver more value today - Strategic sales leading with Brand Protection

“Go it alone”, direct to brands

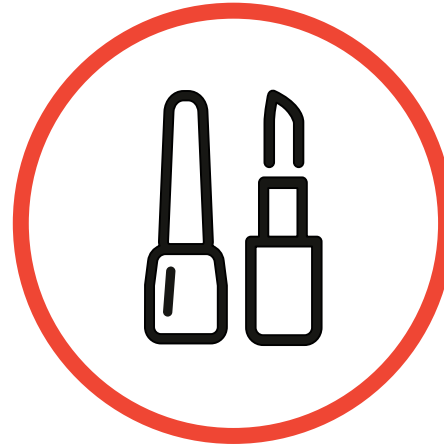
Develop volume and scale through established strategic channel partners

# Initial Vertical Target Markets

Wine and Spirits



Health and Beauty



OTC<sup>(1)</sup> Pharmaceuticals



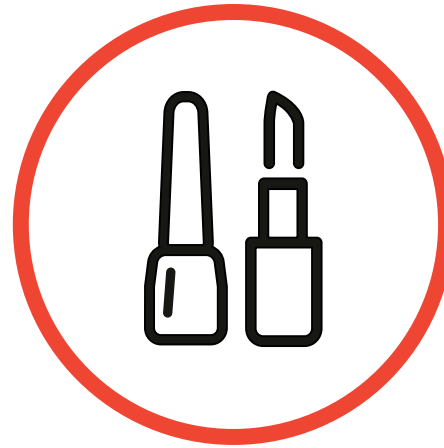
For high-margin premium brand businesses  
**brand value, consumer engagement, and reputation**  
are critical

# Vertical Industry Target Markets Volume Opportunity

## Wine and Spirits



## Health and Beauty



## Pharmaceuticals



TAM

Total Addressable Market

65-70Bn<sup>(1)</sup>

20-30Bn<sup>(2)</sup>

Worldwide  
luxury segment

20-25Bn<sup>(3)</sup>

High-value  
branded segment

SAM

Serviceable Addressable Market

3-4Bn

Worldwide  
premium segment<sup>(2)(3)</sup>

2-3Bn

Excludes small  
package formats<sup>(2)</sup>

1-2Bn

NA, Europe,  
Singapore & China<sup>(3)</sup>

# Vertical Market Customer Deployments



- Tap to learn more about the brand and win prizes
- Gamification to drive engagement and loyalty
- 1% conversion pays for itself



- Tap to connect consumers with Slikhaar TV YouTube channel (1.5 Million)
- Instantly join the Slikhaar community to make online purchases
- 0.5% conversion pays for itself

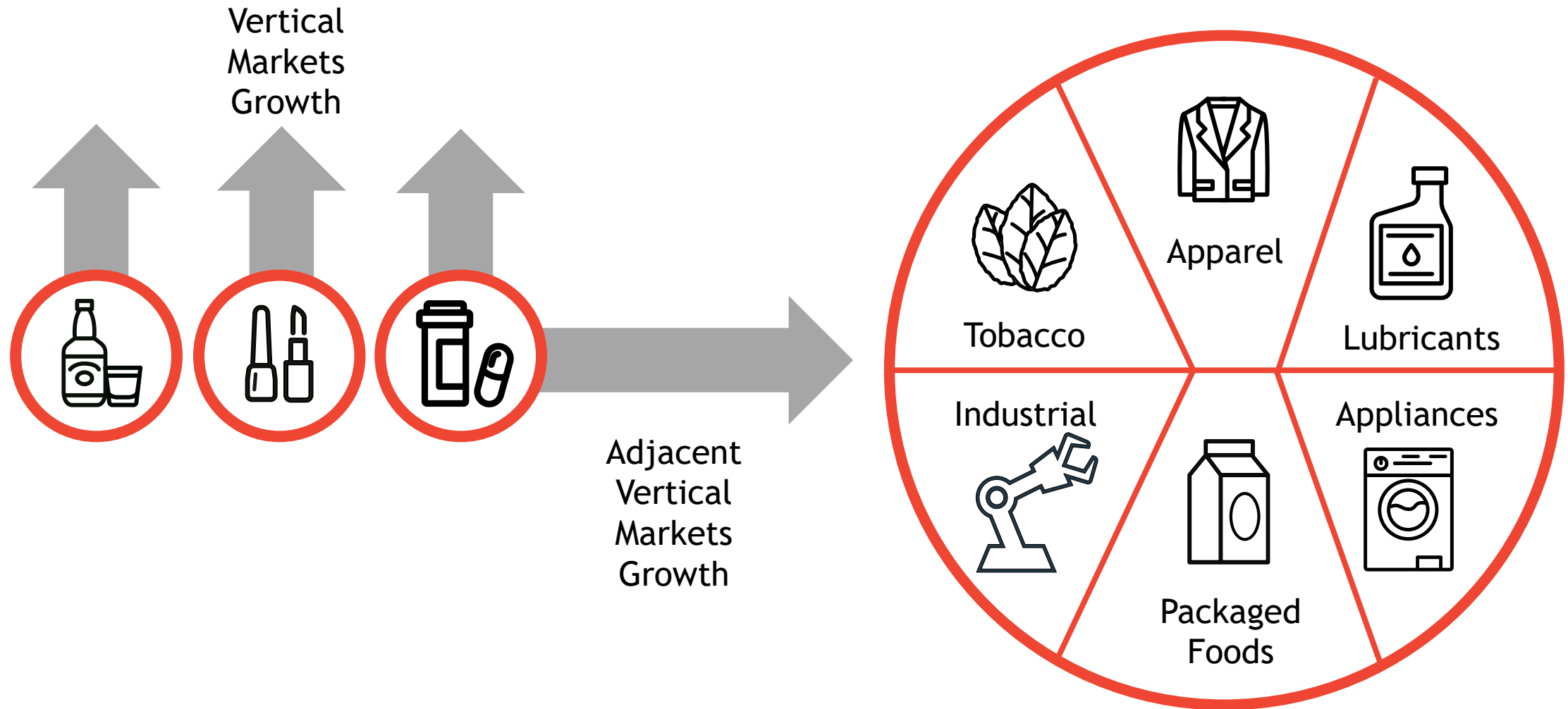


- Increase patient education with video engagement
- Reduce education burden on Doctors and Health Providers
- Large savings versus packaging and time





# Growth Potential in Other Vertical Markets



# Shift from Campaigns to Integrated Platform Solutions



4 Weeks

“World Cup”  
neck hanger  
campaign

- ✓ Consumer engagement

Few bottles, limited time

On-product  
Platform



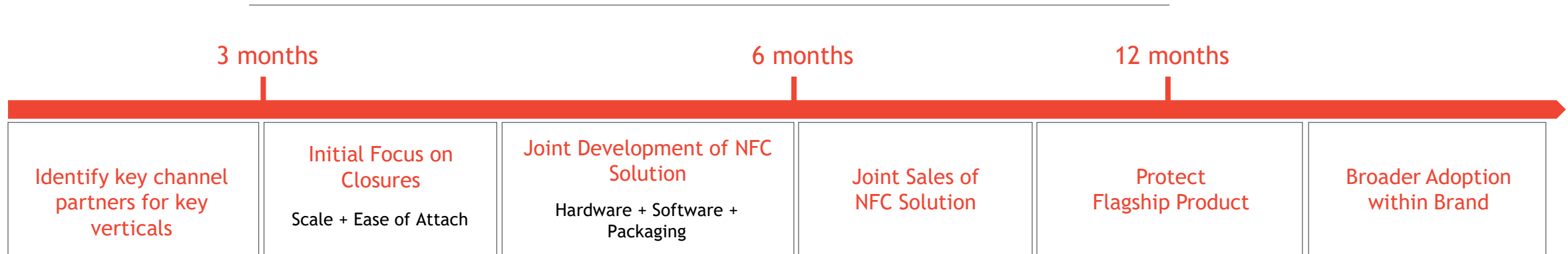
Ongoing

- ✓ Consumer engagement
- ✓ Brand protection
- ✓ Supply chain insights

Every bottle, all the time

# Strategic channel partner engagement

- Able to contribute over 100m unit volumes annually
- Leadership position in key vertical
- Integral component across product portfolio
- Leverage broad distribution for scalability



# Building a go-to-market partner pipeline

- Leverage strong demand for brand protection
- Distribution for full end-to-end solution
- Applicable to most packaging formats
- Convert vendor into strategic channel partner
- Enabling innovative and differentiated designs

## Signed Partners



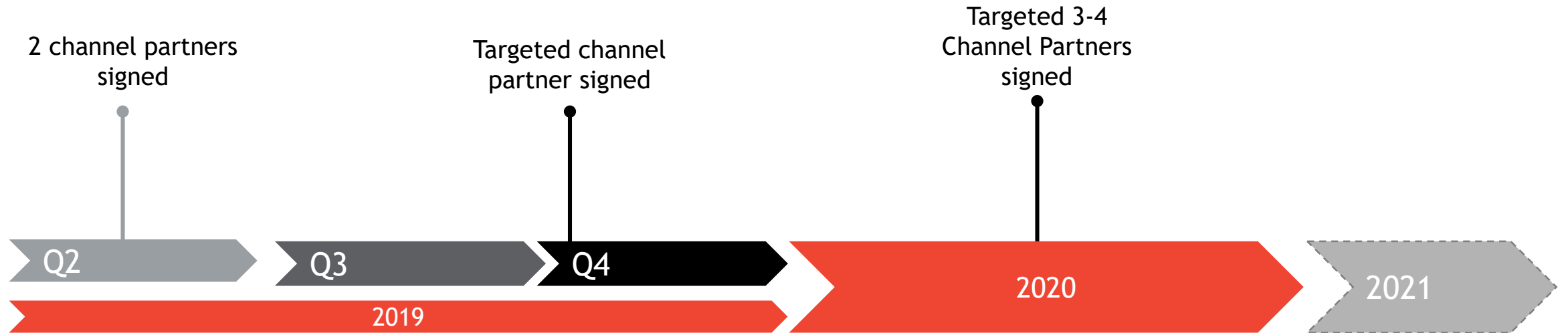
## Pharma & Industrial



## Targeted Deals



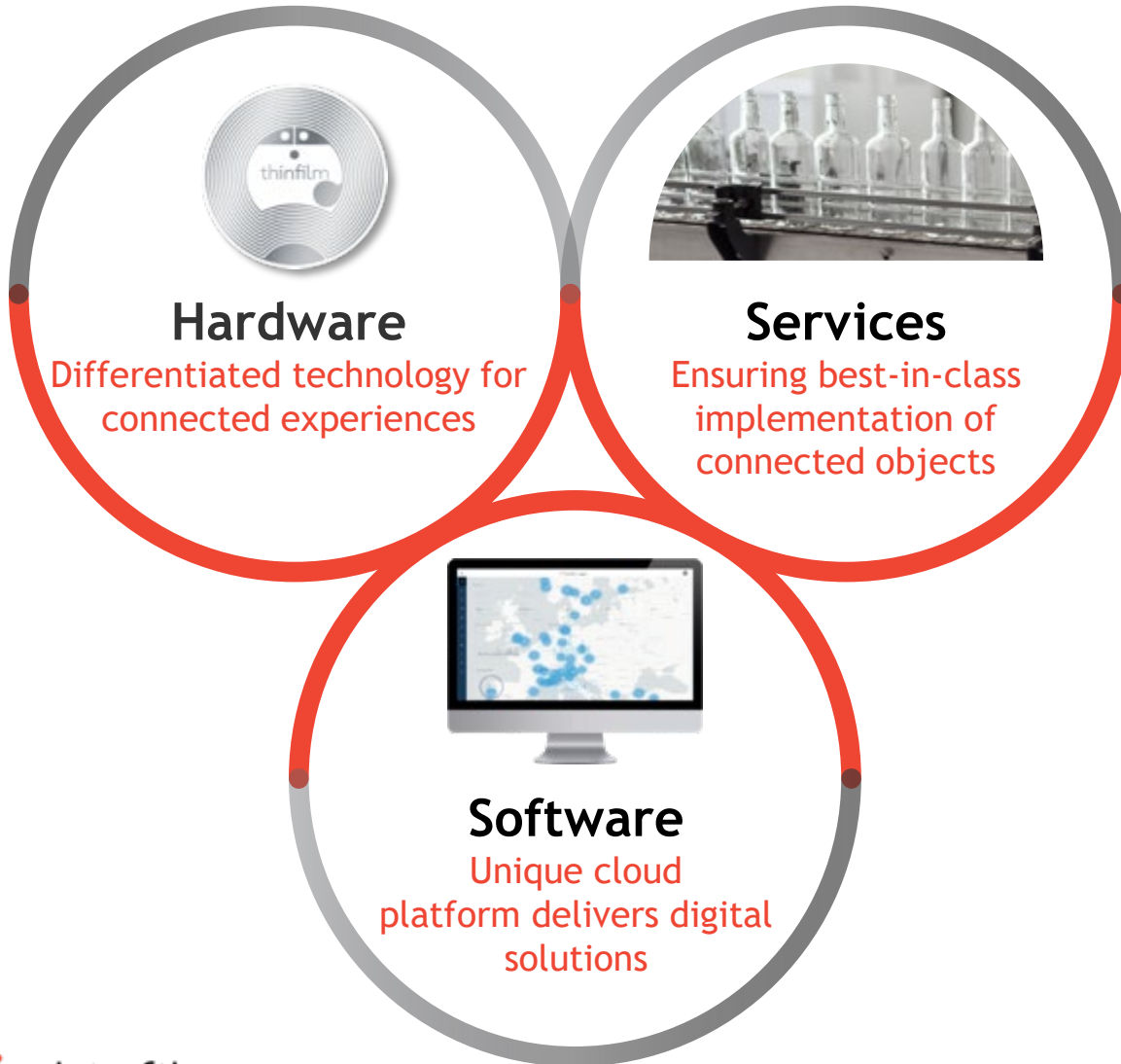
# Channel Partners Deals: Key Milestones



# Solutions

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# Thinfilm Solution



## A fully **integrated platform**

- Unmatched end-to-end solution value
- In-depth industry solution experience
- Proven use cases and track record
- Growing channel partner ecosystem

# Thinfilm Connected Product Solution



A connected product

Enabling consumer authentication & engagement

Driving real-time intelligence and insights



## Brand Protection

# Anti-Counterfeiting and Authentication Solutions

## Value

- Reduce product counterfeit revenue loss
- Thwart tampering, reuse, refill fraud
- Track and trace insights
- Protecting brand reputation and reducing liability



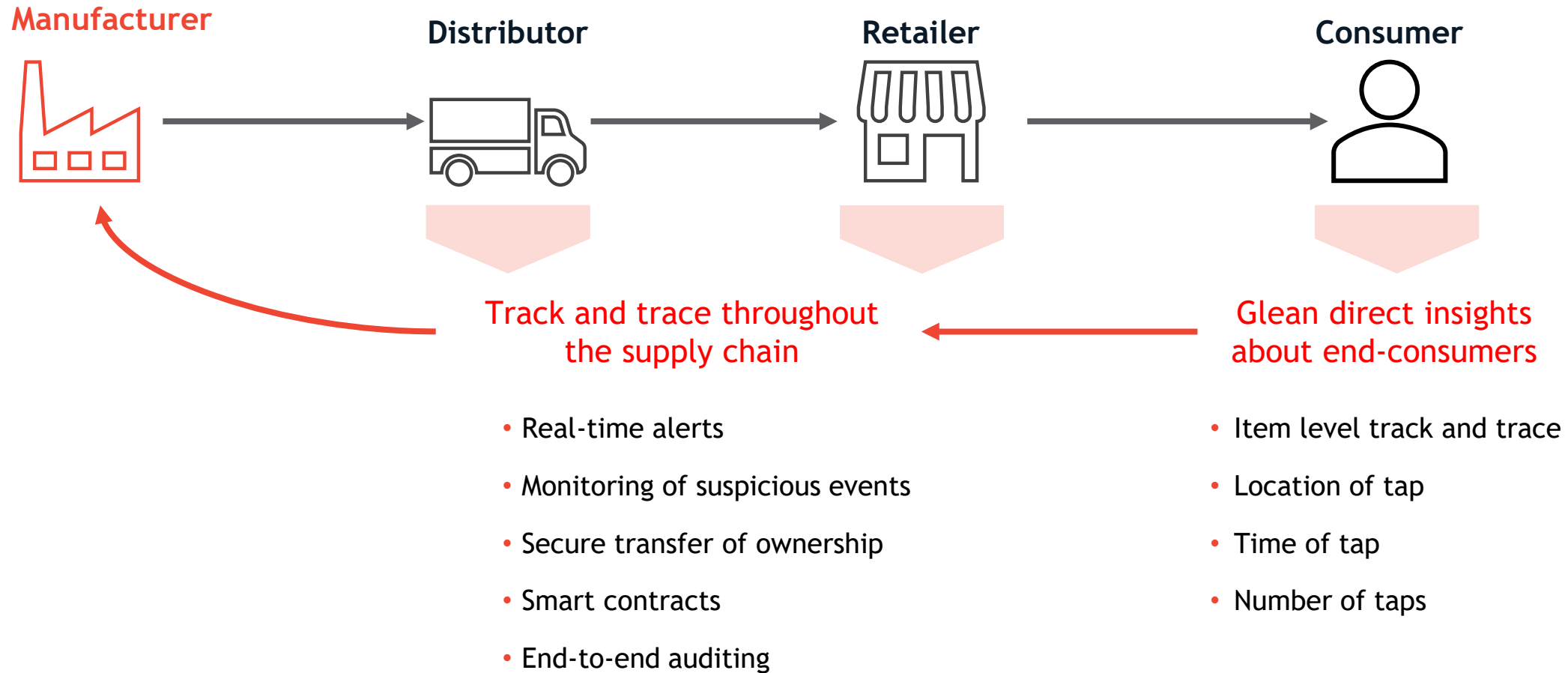
## Consumer Engagement

# Differentiate and gain insights directly from your consumers

- 1:1 consumer experiences
- Proprietary data insights
- Transactions to relationships
- Direct visibility into product engagement

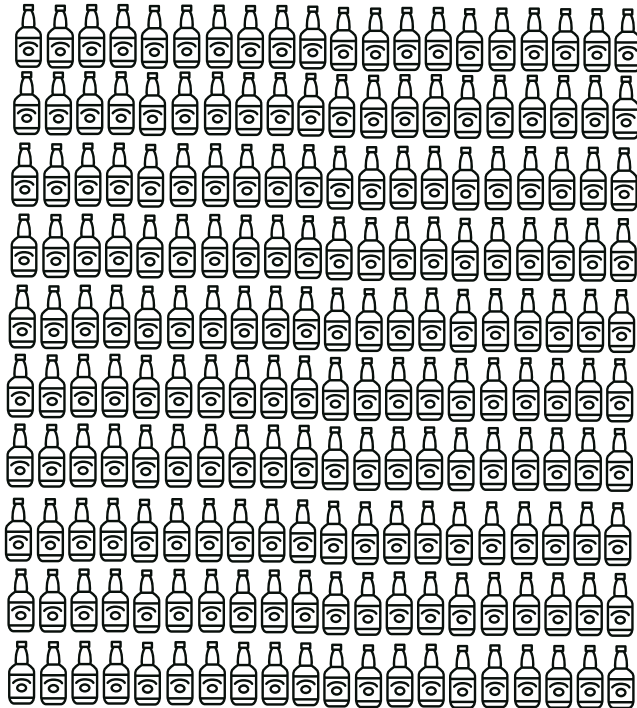


# Bring Product Visibility to Opaque Supply-Chains



# Thinfilm ROI for Brands

## Total Brand Production Volume



## Brand Counterfeited Volume



1 recovered counterfeited bottle per 200  
pays total cost of NFC implementation

# Thinfilm Superior to Alternatives

## Thinfilm Differentiation

### Brand Protection

Loss avoidance,  
Customer assurance



Hologram

Easy to copy  
No digital link  
False sense of security  
No sensor integration

- Unique identities add security, analytics depth
- Real-time data, alerts, insights via cloud
- Consumers authenticate via smartphone
- Sensor integration to fight tampering

### Consumer Engagement

Direct branding channel



QR Code

Difficult to read  
Easy to copy  
Visually unattractive

- Fast, reliable NFC reads
- Unique identities by default
- No graphic design/branding concerns
- CNECT® platform extensible to include QR

### Supply-Chain

End-to-end visibility

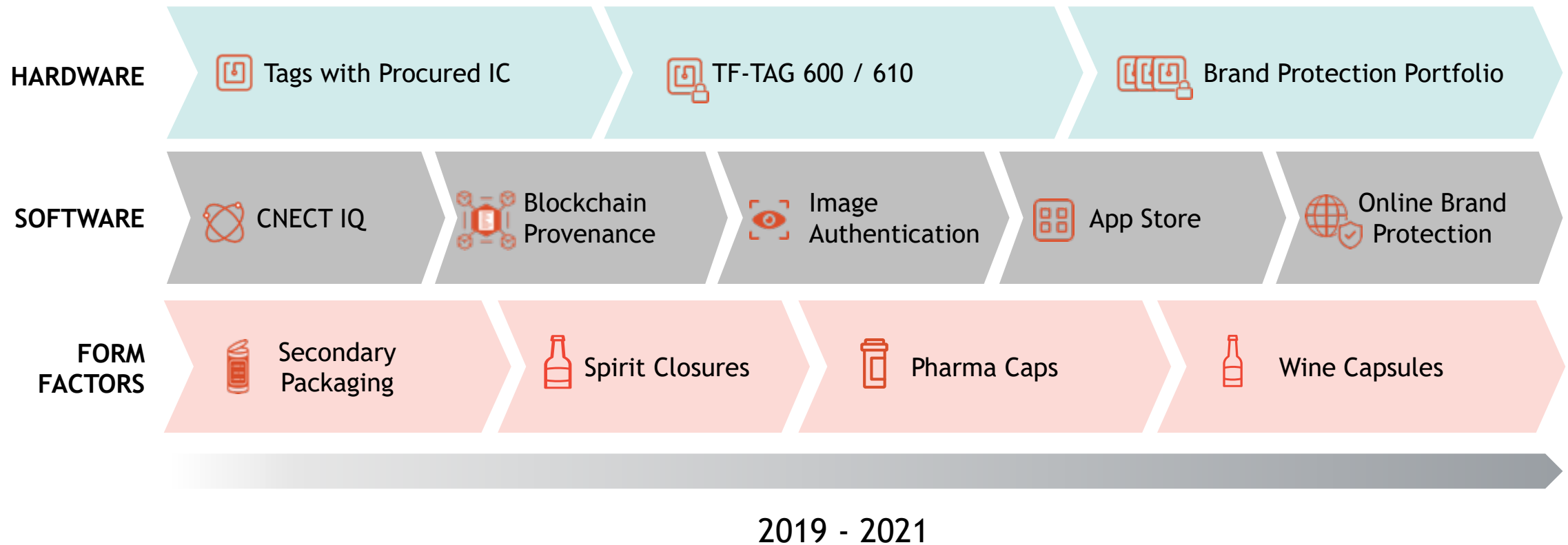


RFID

Industrial only  
No smartphone readers

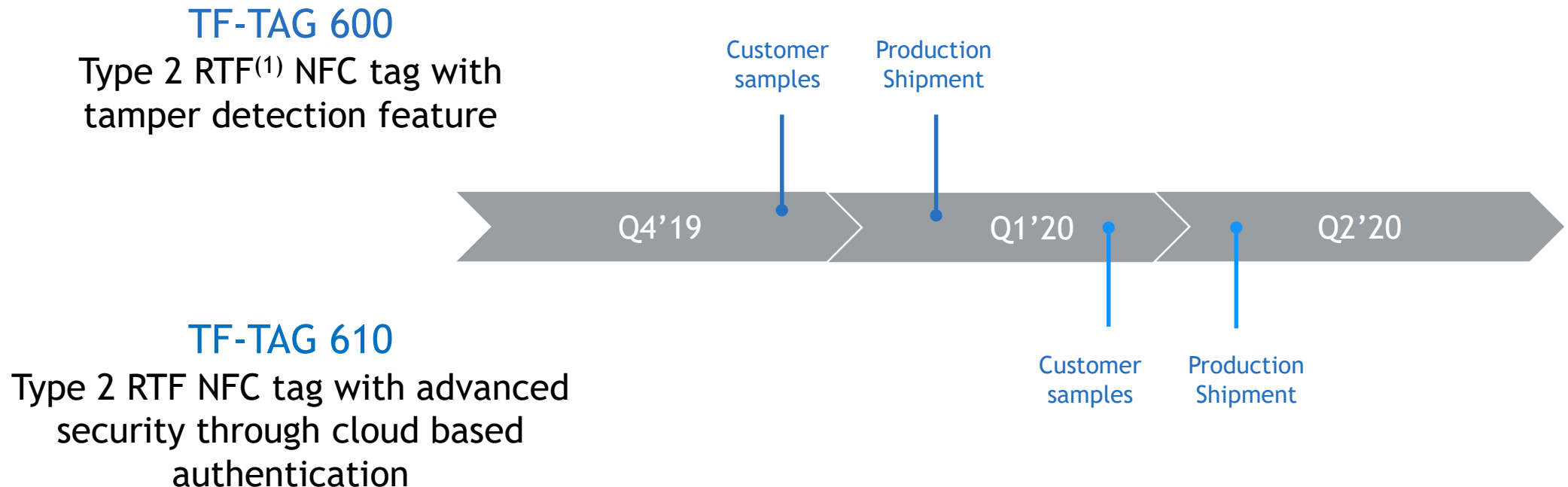
- Extends supply chain visibility beyond store
- Engages consumers at point of use
- CNECT® platform extensible to include RFID

# Product Roadmap

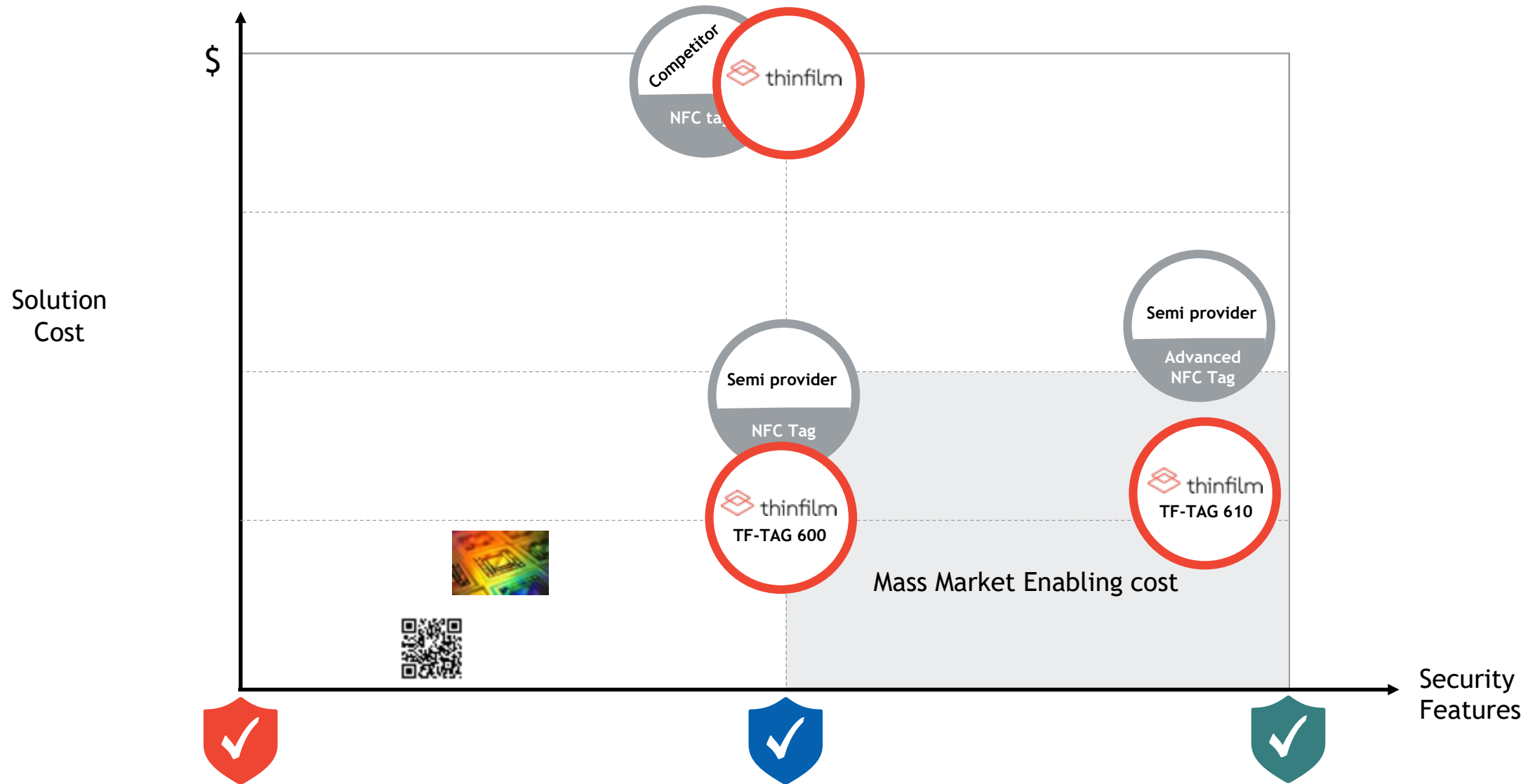


# Thinfilm is Developing Two Silicon Devices

Leveraging in-house design expertise and innovation



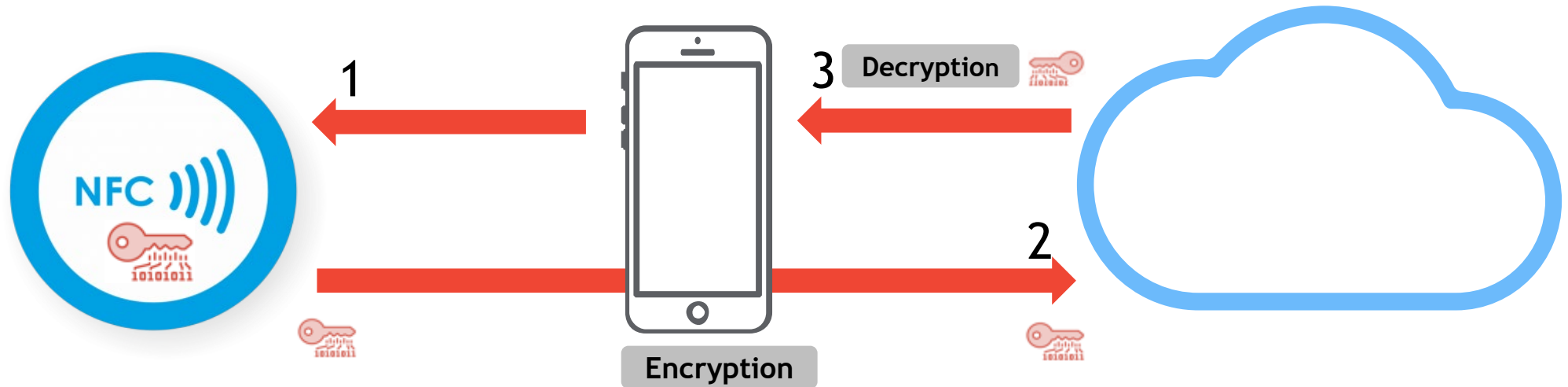
# Thinfilm Silicon Based Product Positioning





# Cloud Based Secure Authentication

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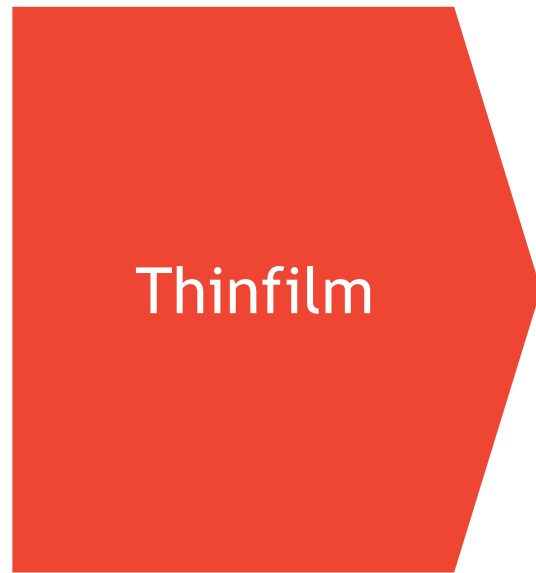
Unique solution based on **Symmetric Encipherment Authentication** engine to provide a differentiated Brand Protection Solutions

# Financials

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# Second Wave of NFC Use Cases Building Momentum

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## FIRST WAVE

Contactless payments

## SECOND WAVE

Connected objects

### Developed NFC expertise

- Extensive industry deployments
- Hardware design
- Software development

### Building Solutions Business

- Scale through channel partners
- Focus on key pain points & large market segments
- Delivering cost effectiveness with independent silicon

# Significant Revenue Potential

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## Revenue Pillars

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- Highest potential verticals
- Uniquely positioned as a full solution provider
- Strategic Channel Partners

## Indicative 2022 Market Potential from Thinfilm Solutions

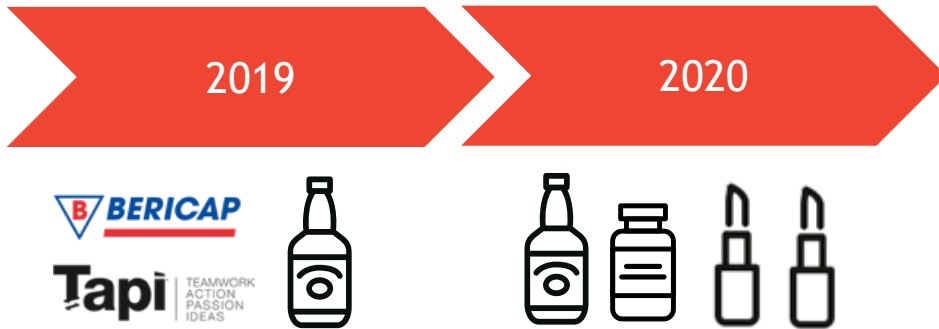
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Premium segment SAM	6-9B units
Attractive ASPs <sup>(1)</sup>	0.13 USD
Estimated attach rate	30%
Target market share	>30%

# Indicative Business Scenarios

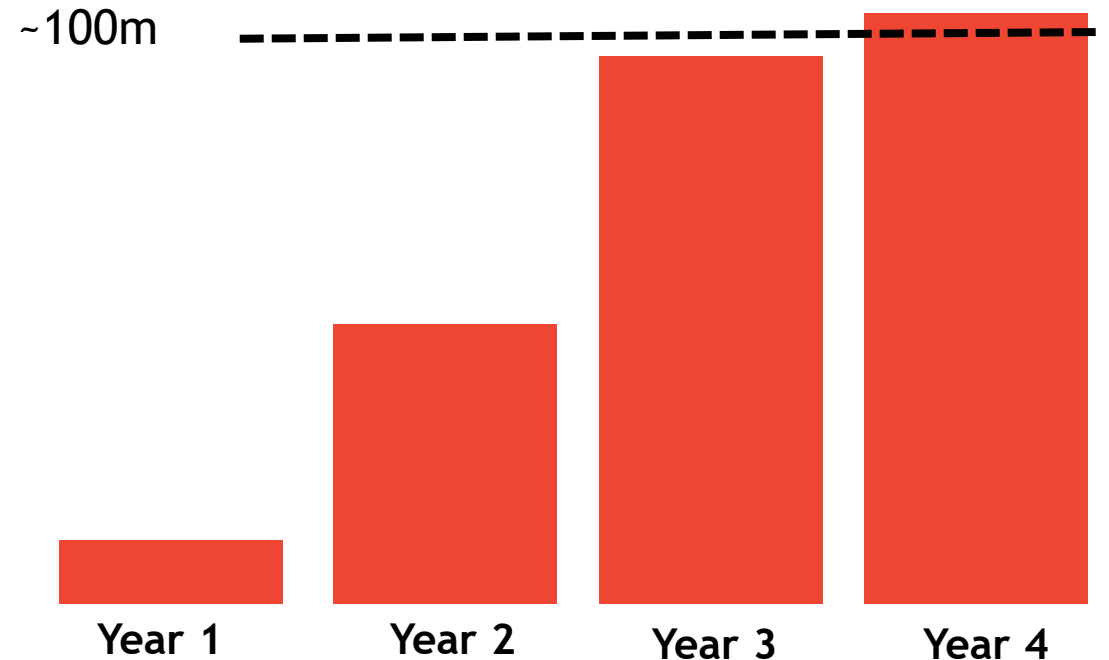
## Channels partners



## Assumptions

- 2-3 years to reach volume potential
- Non-channel revenues expected to be ~25% of total in 3 years
- Channel partner lead time to volume 9-12 months

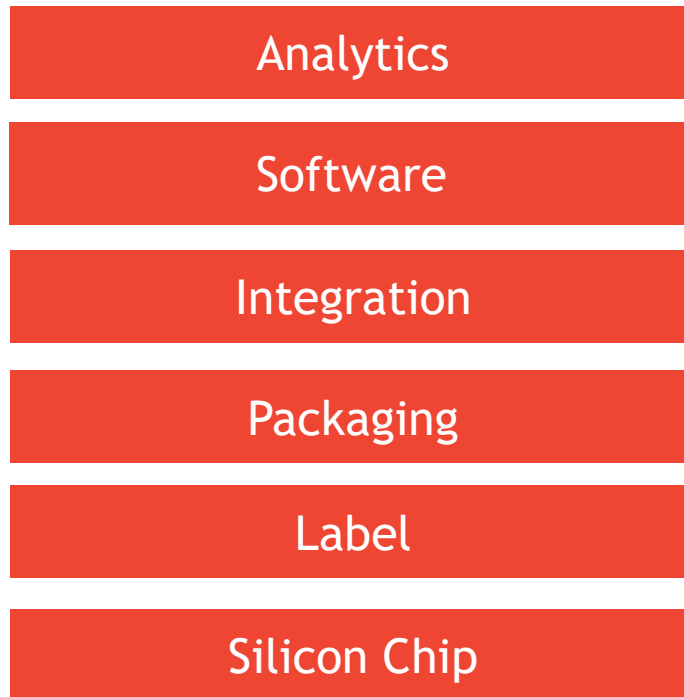
## Indicative volume growth per partner



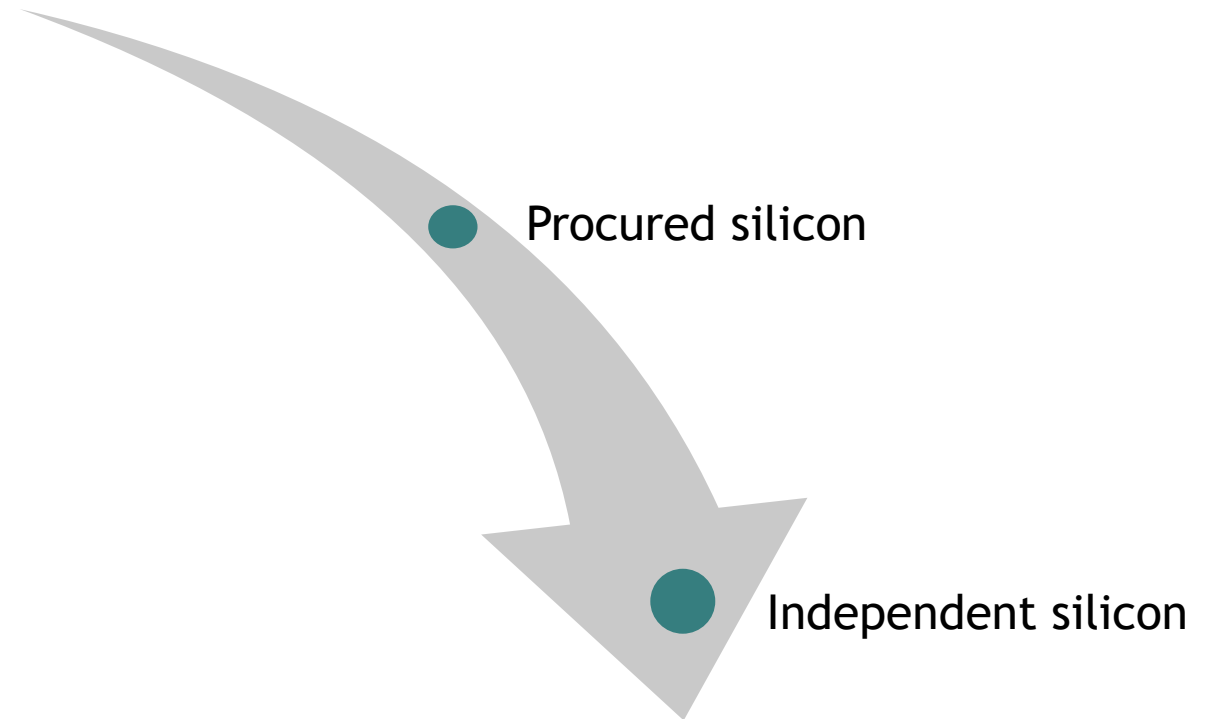
# Solutions Gross Margin Above 50%

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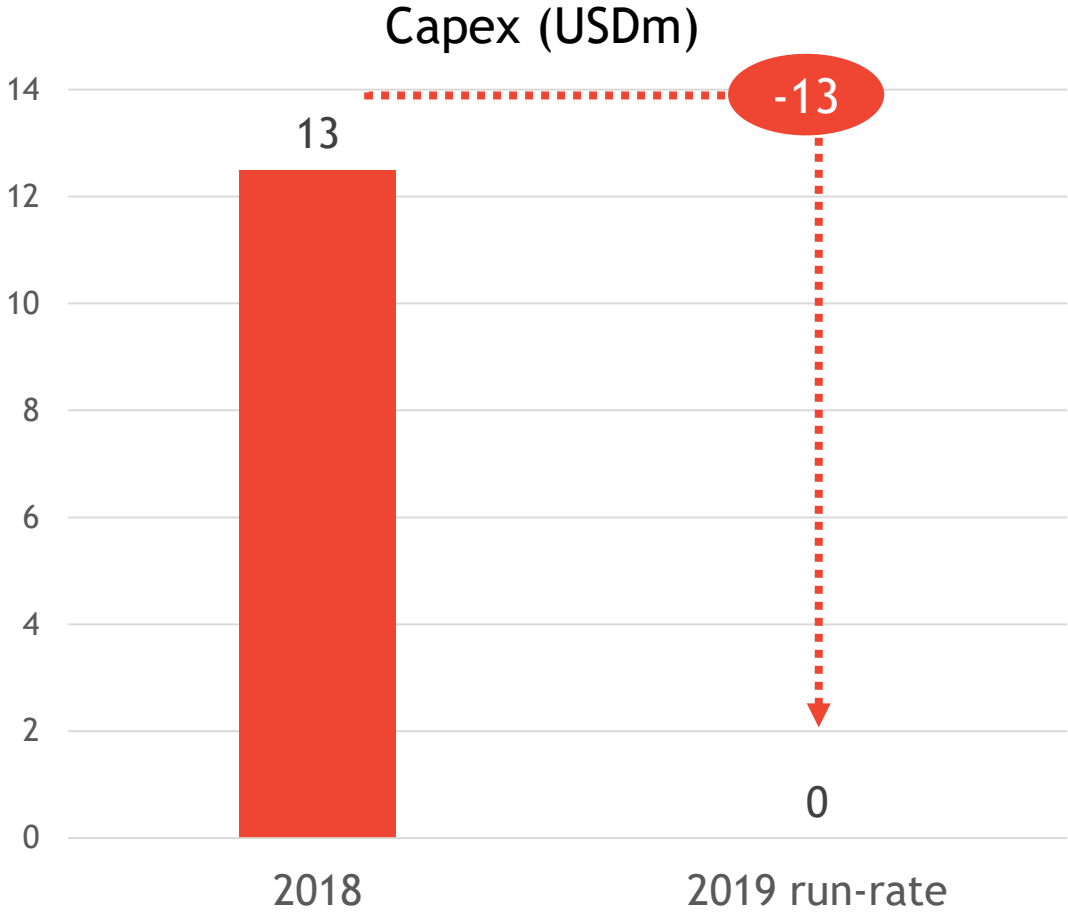
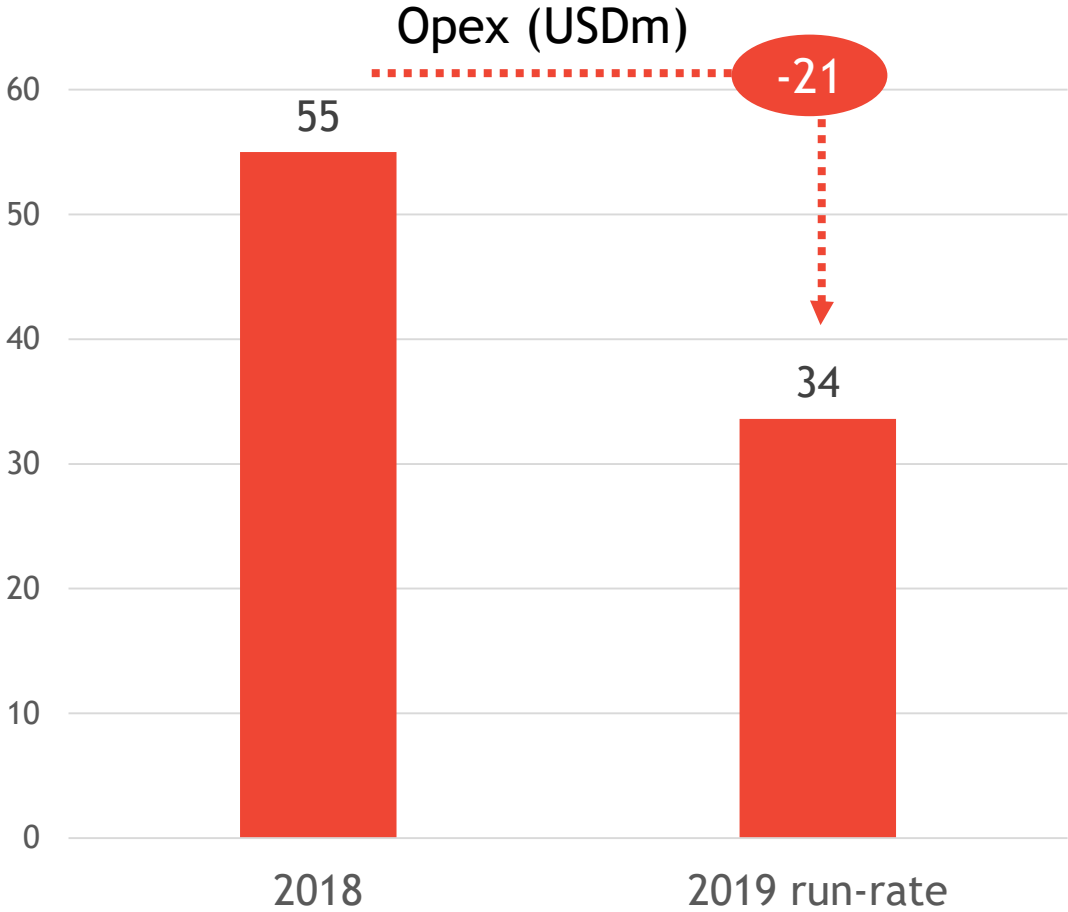
Differentiated  
End-to-end solution



*>50% cost reduction*



# Product Solutions Focus Reduces Cash Requirements



# A new business model

## Revenue

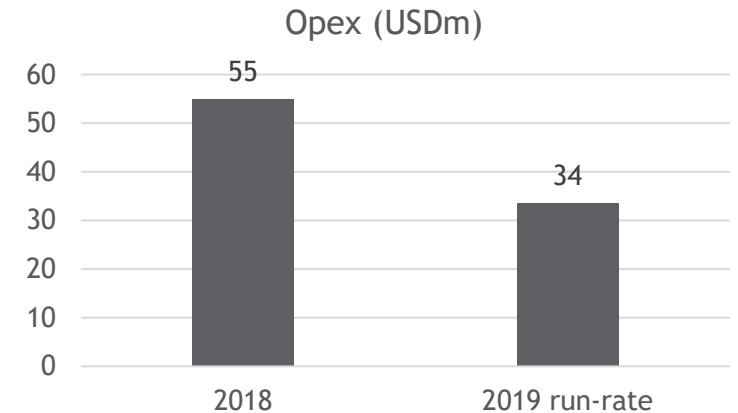
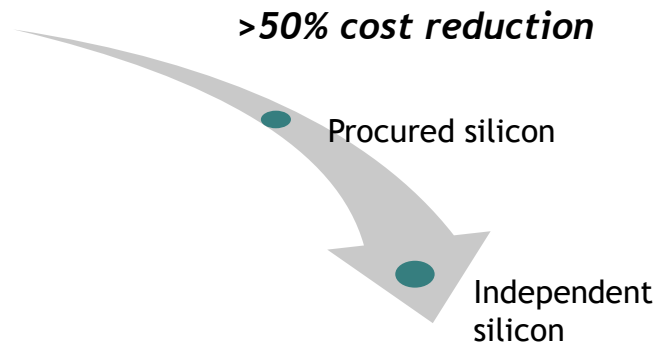
Premium segment SAM ~6-9B units  
 Attractive ASPs<sup>(1)</sup> ~0.13 USD  
 Channel partners in 2021 ~6-7  
 Non-channel revenue ~25%

## Gross margin

Solutions gross margin of >50%  
 50% unit cost reduction  
 Unique end-to-end solutions

## Opex

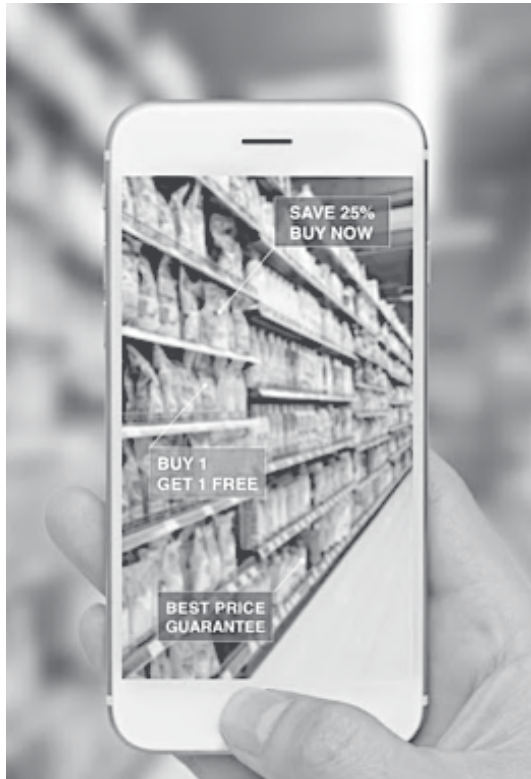
New annual OpEx run-rate of ~\$34m  
 Expected to remain stable  
 CapEx requirements insignificant



**Target break even 2021**



# Transforming into a fully integrated solutions company



## Huge Opportunity

Brands Face  
Disruptive Challenges



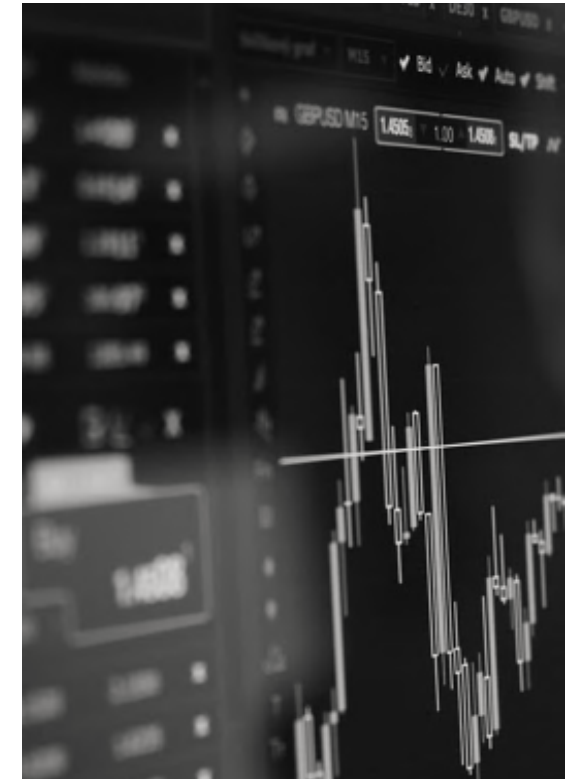
## Strategy

Focus on Vertical Markets  
Scaled Channel Partners



## Solutions

Secure Integrated Solution  
Independent Silicon



## Financials

Lowering Breakeven  
Accelerating Gross Margins



**Thank You!**





# Appendix



# Additional disclosures

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## Preliminary Q1 financials

- Revenues: \$0.8 M
- EBITDA: \$(10.8m)
- Operating Cash Flow: \$(10.0m)
- Capex: \$(2.2m)
- Closing cash balance: \$20.0m

## 2018 Asset impairment

The restructuring announced 15.03.2019 triggers material impairment on PDPS asset values

Asset revaluation according to IFRS (IAS 16&36) will reflect discounted equipment market fair value, rather than “in-use” value (Unimpaired book value: \$40.8m)

Management strategy is focusing on realizing value from the facility, technology and IP as a whole.

Full details will be disclosed on publication of the annual report on 30.04.19.