May
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Bringing the Power of Digital Marketing to the Physical World

Dynamic Consumer Engagement with NFC OpenSense™ Mobile Marketing

Presented by:

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Thinfilm Electronics At-a-Glance

- Manufacturers low-cost, high-volume electronics made by ***printing***.
- Makes smart labels and sensors that power the "Internet of Things"
- Headquarters in Oslo, Norway, manufacturing in Sweden and the Silicon Valley.
- OSE: THIN.OL / OTCQX: TFECY
- 110 employees
- 277 patents & patents-pending
- Only company in the world able to print and commercialize re-writeable memory and transistors, the core elements of an electronic integrated circuit.

BARRON'S

"The explosion of connected things offers opportunities for … Qualcomm and Thin Film Electronics."

The Economist

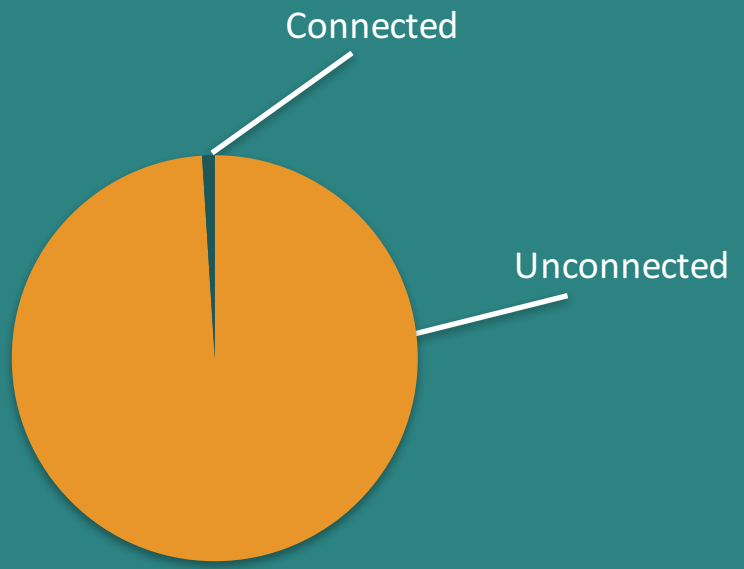
"These smart labels are about to become a big part of 'the internet of things'"

Forbes

"Thinfilm's approach uses smart labels and tags to make the Internet of Things possible'"

Less than

1%



of the world's items
are connected

Connected Objects by 2020



50 Billion

to

10+ Trillion

Redefining the Internet of Things (to Everything)

- Extends IoT beyond M2M devices with IP addresses
- Brings sensor capability and tracking to consumables through mobile
- Smart connected things provide valuable insights and critical information to:
  - Help businesses and consumers make better decisions
  - Inform, entertain, protect customers
  - Manage a process



NFC: Ideal for the IoT and Here to Stay



Mobile Coverage is Ubiquitous
95% of the world's population is covered by mobile networks



Smartphone Use Has Exploded
7.6 billion mobile subscriptions in Q3 2015, 9.2 billion by YE 2019



NFC Now on All Mobile Platforms
1 billion NFC phones in use by YE 2015



Connectable Items are Everywhere
1 trillion connected by 2020; adding 1% to retail value = $100B

NFC Wireless Communication



"Mobile First" Attitude is Pervasive
85% of people say that mobile devices are a central part of everyday life

Source: IDC; IHS Feb 2014; Ericsson Mobility Report June 2014; OICA; ExactTarget 2014 Mobile Behavior Report; IBM; Cisco; ABI 2013

The Convergence of Digital and Mobile

Smartphone >> the center of the digital lifestyle

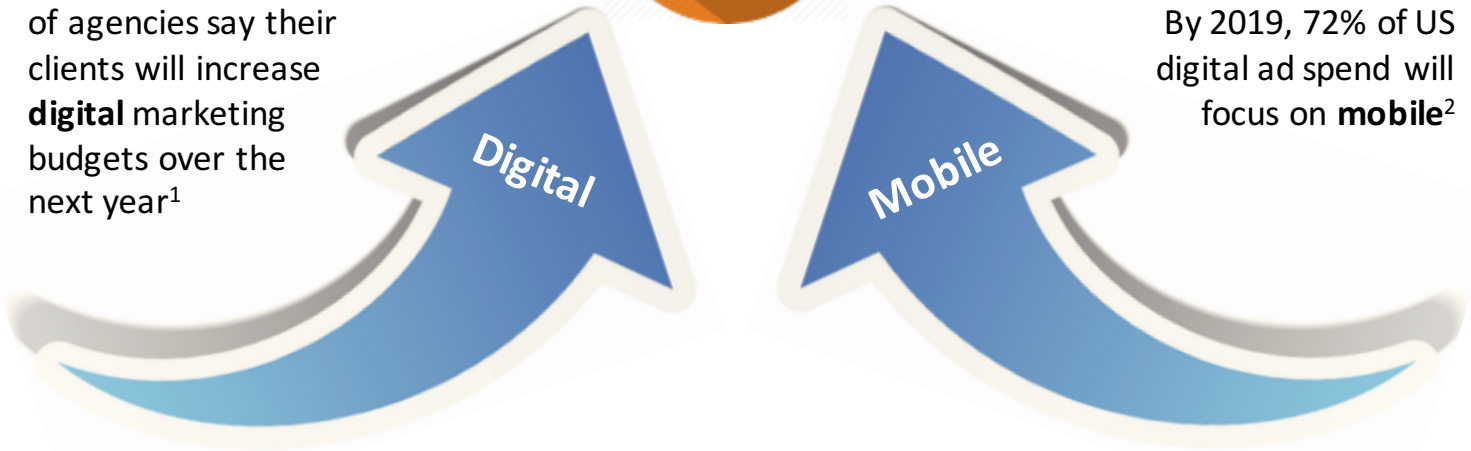


84%

of agencies say their clients will increase **digital** marketing budgets over the next year[1]

$66 billion

By 2019, 72% of US digital ad spend will focus on **mobile**[2]



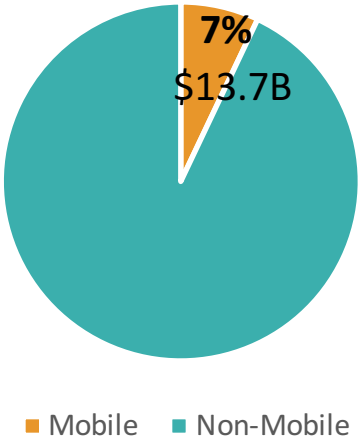
[1]Econsultancy, Marketing Budgets 2015 Report

[2]eMarketer, March 24, 2015

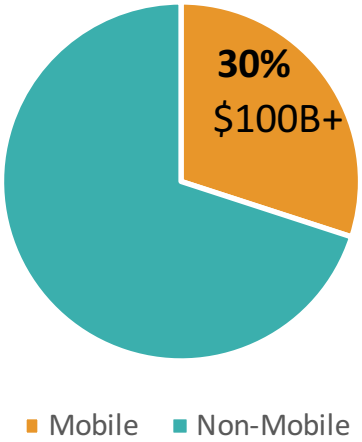
Rapid Growth Rate of U.S. Mobile Commerce

U.S. mobile commerce is growing faster than overall e-commerce

2011



2015



2017

Mobile commerce estimated at $113.5B+

(source: www.internetretailer.com, "*Mobile Commerce is Now 30% of All U.S. E-Commerce*" Aug.18, 2015)

Mobile is the Center of Omni-Channel Retail



However…
Brick & Mortar Still Influences a Large Proportion of Retail Sales

90% of customers use their mobile phones in-store

53% of shoppers prefer to research products in-store

25%
Purchase on Mobile Device

22%
Comparison Shop



14%
Share Deals

19%
Use Coupons

source: www.internetretailer.com, *"75% of Mobile Shoppers Use Their Mobile Devices In-Store", Apr. 9, 2015*

Contextual Mobile Commerce in Cosmetics

- ***Contextual commerce*** will increase among beauty merchants in particular*
  - While in-store, shoppers use their phones to:
    - View beauty vlogger recommendations
    - Use social media
    - Research products; comparison shop
  - ***Connects merchants and consumers in both physical & digital spaces***
  - ***Presents purchase options at the very moment of discovery***



*Source: CosmeticsDesignUSA, *"Mobile purchases are rising fast and driving cosmetics sales, says PayPal"*, Oct 6, 2015

Therefore, the biggest challenge for a brand is:



How to merge the physical & digital worlds into ONE unified consumer experience

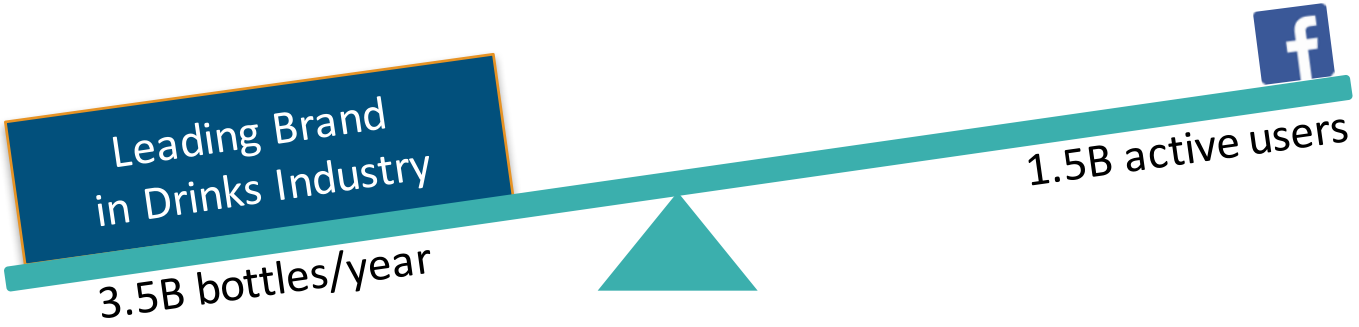
The Product as a Media Channel

An individual media channel capable of reaching today's digital and mobile consumers on their terms





A ubiquitous engagement tool that protects product integrity and is in the hand of virtually every consumer







Thinfilm NFC OpenSense™

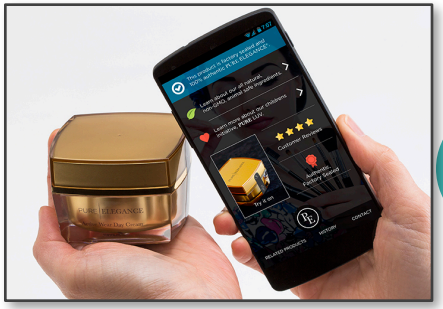
THINFILM

Smartphone-centric
NFC readability
before and after
product opening



NFC OpenSense™ - One Label, Two Opportunities

Product Integrity



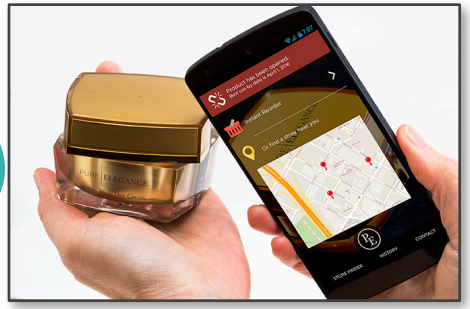
- Counterfeiting & parallel trade protection
- Mass-market security
- Unique factory-encoded IDs
- Cannot be cloned

1



2

Consumer Engagement



- Targeted consumer engagement pre- and post-purchase
- Connects offline with online
- Enables “market of one”

Cloud-Based Platform

First-party data on highly engaged consumers

- Where and when consumers engage with products
- What they consider
- What they purchase
- What products they re-engage with after purchasing
- How frequently they engage

Date	Time	Lat	Lon	UserID	Product ID	Product	State
26-Aug-15	20:23:20	45.34060	-93.40135	850c9 ... e8fe5	04645 36cb6	Cognac VSOP	Open
26-Aug-15	19:09:10	46.01932	-93.22827	17999 ... 16f72	a8ead ... 64f02	Cognac XO	Open
25-Aug-15	17:51:44	45.34227	-94.67483	79073 ... 12d46	27054 ... 85e04	Cognac VS	Sealed
25-Aug-15	17:26:27	44.94113	-94.16858	f9cdd ... 1dd97	a3cc7 ... 89312	Armagnac VS	Sealed
25-Aug-15	18:23:20	44.76858	-91.94822	5d2f9 ... 466ff	de87d ... 5345c	Cognac VSOP	Sealed
25-Aug-15	16:28:54	45.64421	-93.40154	578aa ... b72a1	fe772 ... 37e99	Armagnac VS	Open
24-Aug-15	17:52:48	44.85895	-91.94958	59538 ... c3498	30f65 ... 13a63	Cognac Napoléon	Sealed
24-Aug-15	16:37:25	44.52298	-93.99761	40323 ... b67d5	18390 ... 04cc7	Cognac VSOP	Sealed
24-Aug-15	15:22:03	44.76858	-91.94822	17999 ... 16f72	a8ead ... 64f02	Cognac XO	Sealed
24-Aug-15	15:20:18	44.76858	-91.94822	17999 ... 16f72	35552 ... 9f7da	Cognac VSOP	Sealed
24-Aug-15	12:51:17	44.76858	-91.94822	ade34 ... 2d19d	35552 ... 9f7da	Cognac VS	Sealed
09-Jun-15	20:59:35 P	46.01932	-93.22827	17999 ... 16f72	482c4 ... 7f4a0	Cognac VSOP	Open
09-Jun-15	19:49:57	45.64421	-93.40154	351e2 ... efe6e	2b599 ... 52c25	Cognac XO	Sealed
09-Jun-15	18:24:46	45.51105	-94.69839	99be0 ... 6b36b	712a9 ... 76834	Cognac VSOP	Open
09-Jun-15	20:37:23 P	46.01932	-93.22827	17999 ... 16f72	482c4 ... 7f4a0	Cognac VSOP	Open
08-Jun-15	17:48:51	44.76858	-91.94822	3d4c7 ... 829ac	edaba ... e0dc7	Cognac VS	Sealed
08-Jun-15	17:46:38	45.34060	-93.40135	eb2b1 ... 062ea	fc8e3 ... 3f21b	Cognac VSOP	Open

Sample Data Set

June, Customer engaged twice at home w/ Cognac VSOP
August, Customer engaged in store, considered VSOP and XO
Purchased XO and enjoyed purchase two days later

Case Studies & Use Cases



Targeted consumer engagement via mobile



Unique experiences pre- and post-purchase



Connect offline prospects with online identities



Create seed profiles from most highly engaged prospects

OPENSENSE™ SMART BOTTLES

BARBADILLO

DESDE 1821





DIAGEO

FERNGROVE

FRANKLAND RIVER

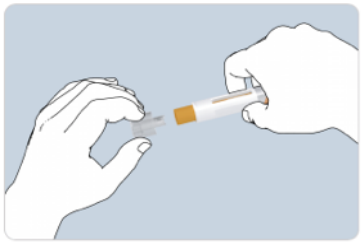


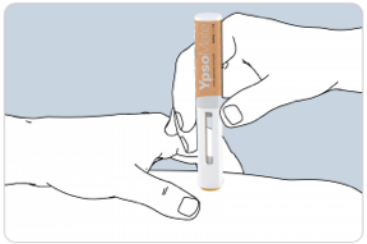
Pharma / Medical Devices

YPSOMED
SELFCARE SOLUTIONS

- Publicly listed on the SIX Swiss Exchange
- Global leader in injection systems for self-medication
- Sells to major pharmaceutical brands
- Launched 50 CHFm program in next-gen injection/infusion systems
- Demonstrated prototypes at flagship Vienna event




1. Remove cap


2. Inject

"Ypsomed has identified a need amongst its customers for injection devices that in the long run support the administration of medicine with intelligent functions realised by electronics and software."

– Ypsomed Semiannual Report 2015/16

Questions?

