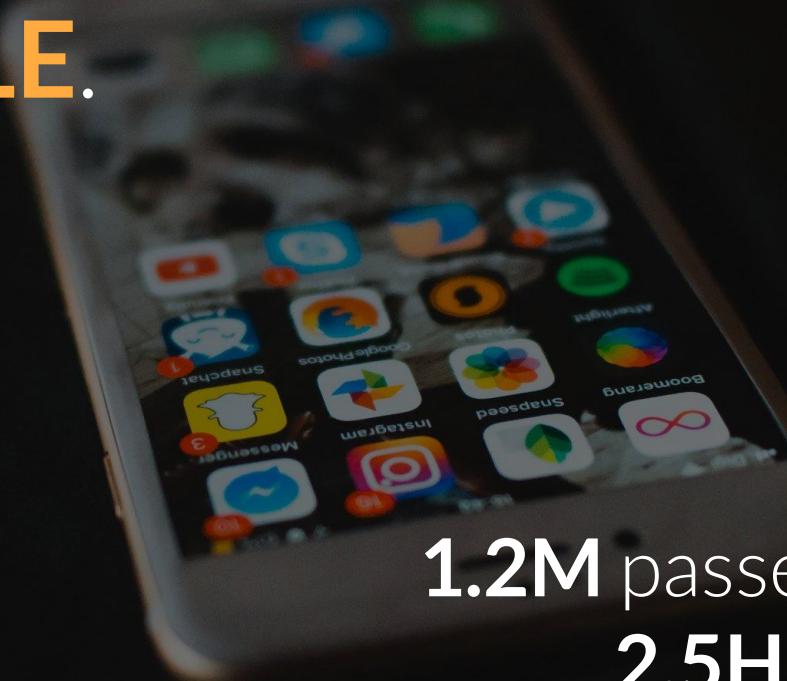




Interac In Transit

MAKING TORONTO TRANSIT GO **MOBILE**.



1.2M passengers daily
2.5HRS / person



Presto App **Review**

Mariya Boneva

“ Why do I have to tap my physical Presto card through the NFC **instead of just using my phone?** My card is already in my Presto account... It doesn't make sense that I should have to tap my physical card on the bus.

From **Google Play**

1

System Quality
Control

2

High Expenses,
Low Returns

3

Low Customer
Satisfaction

1 System Quality Control

Distributed

All Presto account information is stored on the fare card itself.
Updated information is distributed to fare devices across the transit system.

Offline

The updated account information is only transmitted to a customer's physical card once they tap it on a Presto device.

Slow

Many Presto devices connect to the central network less often than others.
TTC (mobile network) → Quick update
Go buses (agency garages) → once a day

2 Low Customer Satisfaction

Google Play



"It takes 12 hours, but still didn't update my current amount. What is the point to have a refresh function if its not working. **Just got kicked out from the bus,** because I thought I had enough to get on the bus."

Yelp



"Slow to reflect real-time changes, systems always down, not user friendly..."

3
High Expenses,
Low Returns

1.2 Billion in Capital Costs

“Presto could end up being one of the world’s priciest fare-card systems.”

PRESTO Implementation Operating Cost 2018: \$13.1 M

Continued PRESTO Implementation: \$8.2M



Expansion



Competitiveness

Presto Volume

2.2M users | 350M taps | \$1B volume

Canadian Public Transit Market
\$16B in revenue

Digital Security



Hong Kong

Case Study

Gemalto enables **digitalization** of
Hong Kong's Octopus card into
Samsung Pay.

Customer



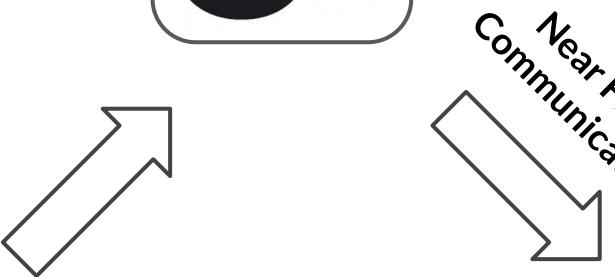
Credit/Debit Card



Smart Octopus
Trusted Service Hub



Securely Digitized



Near Field
Communication

80 000+ touch points in Hong Kong

including retail outlets, online shopping, recreational facilities, vending machines, and self-service kiosks

34.5M+ active Octopus cards

14.5M+ transaction counts

HK \$200M daily in volume



“

Smart Octopus in Samsung Pay delivers a **convenient** yet **secure** payment option for consumers in Hong Kong, and help the city realize its **vision of transforming into a cashless society**.

Given its **robustness**, the **TSH** is already in use by various organizations such as banks and retailers wanting to offer secure mobile payment solutions to their customers.

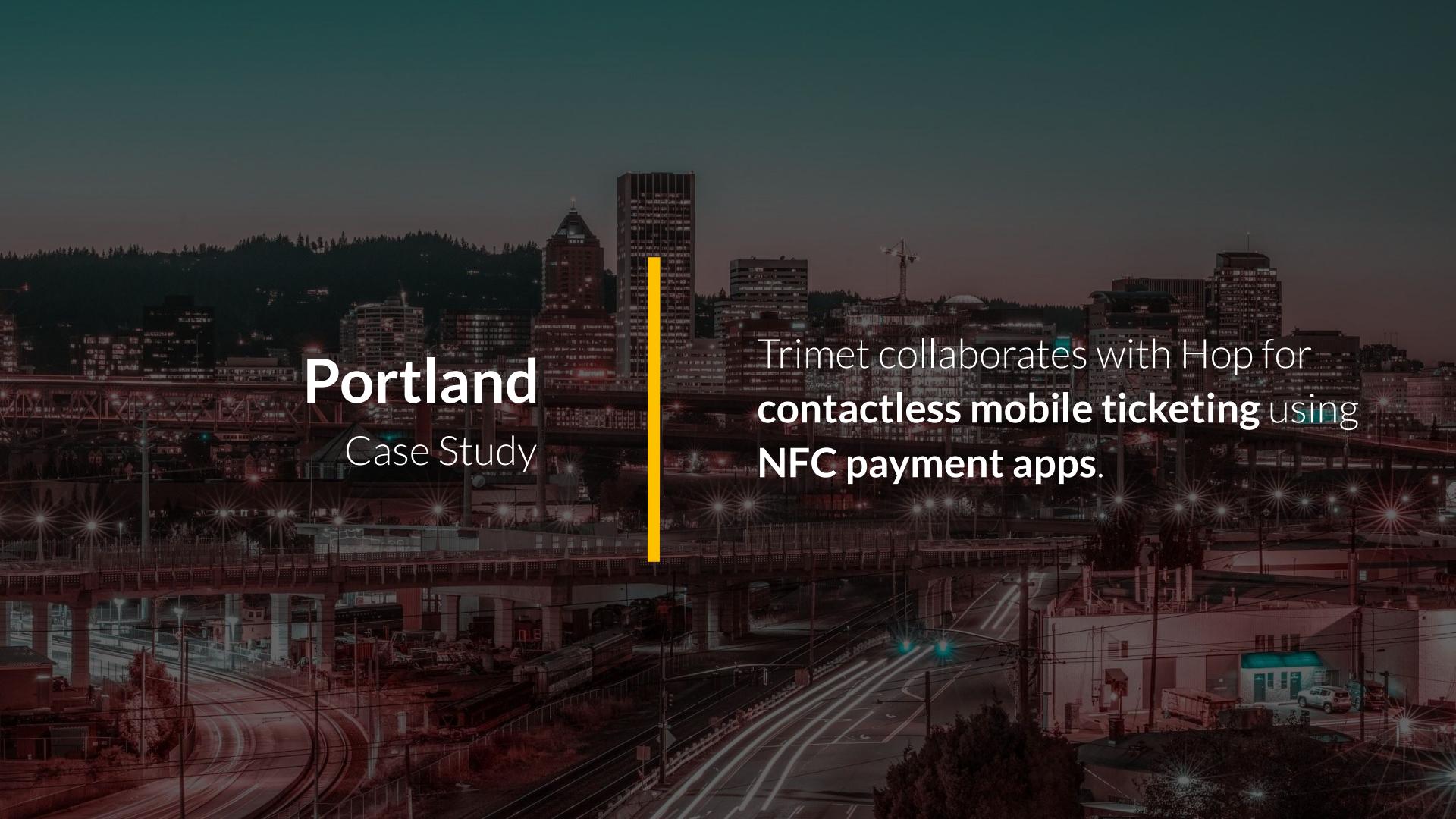
We hope that the success of Smart Octopus in Samsung Pay will spur other global operators to roll out mobile payment offerings that are **easy to use** and **do not compromise on security**.

VP, **Gemalto**



KEY TAKEAWAY

Digitalizing transit cards is perfectly viable, and
it's happening right now.

A nighttime photograph of the Portland, Oregon skyline. In the foreground, a multi-lane highway with blurred lights from moving vehicles curves through the frame. A prominent yellow vertical bar is positioned in the center, partially obscuring the city buildings. The city skyline features several illuminated skyscrapers, including the Wells Fargo Center and the KOIN Center. A bridge or elevated roadway is visible in the background, with more city lights and a dark sky above.

Portland

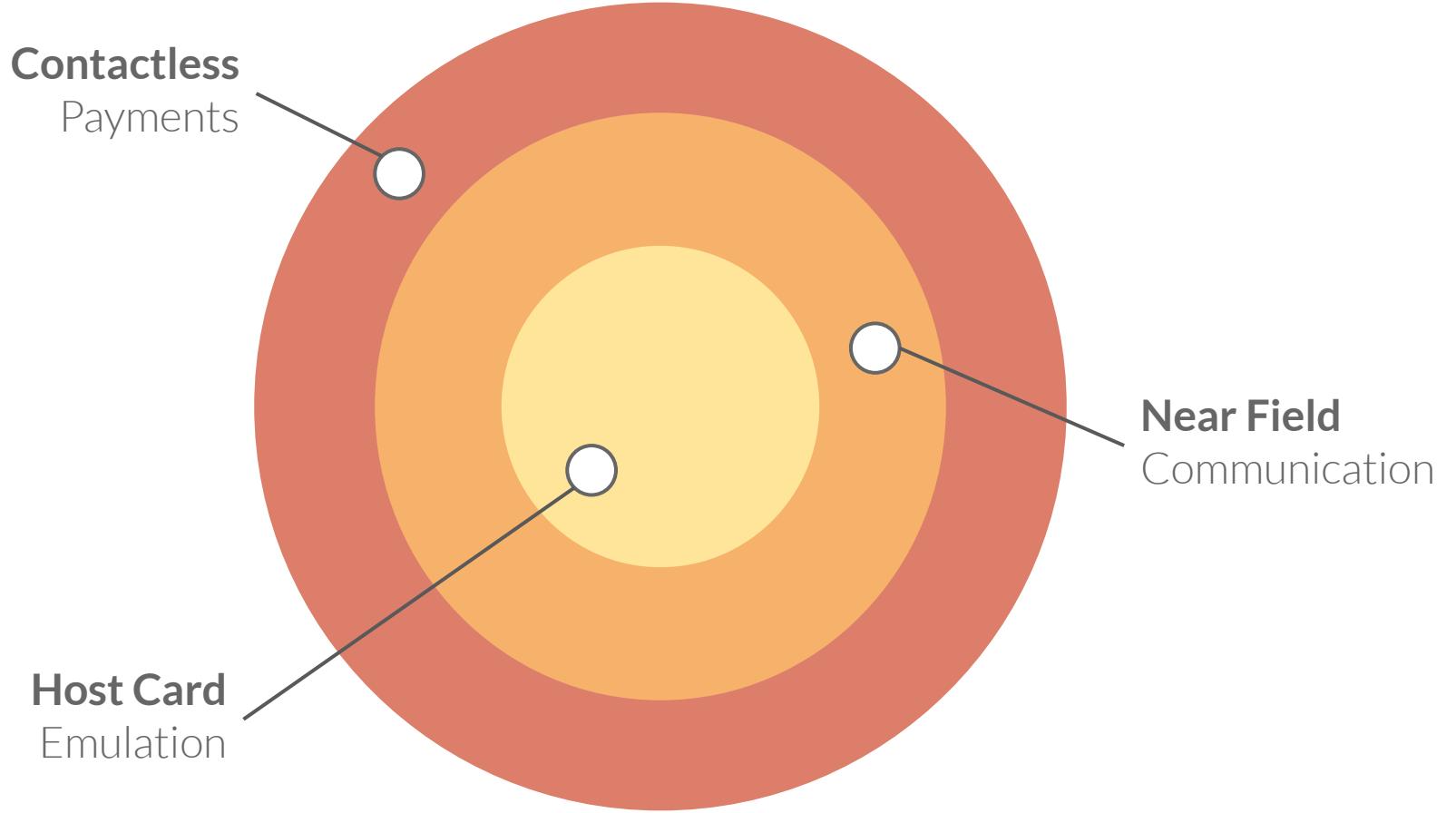
Case Study

Trimet collaborates with Hop for
**contactless mobile ticketing using
NFC payment apps.**

Pay-as-you-ride model

Virtual HOP card

4% in 2017 → **23% in 2018!**



KEY TAKEAWAY

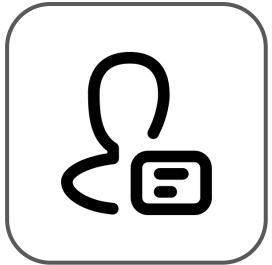
NFC mobile payments offer the convenience transit riders need, and adoption happens fast!



Our Solution



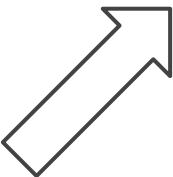
Customer



Credit/Debit Card



Smart Octopus
Trusted Service Hub



Securely Digitized

NFC



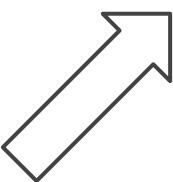
Customer



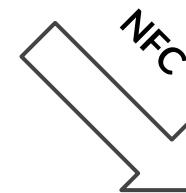
Credit/Debit Card



Gemalto
Trusted Service Hub



Securely Digitized



MIFARE DESFire



Customer



Credit/Debit Card



Gemalto
Trusted Service Hub +



UpTeq Multi
Tenant SIM



NFC

Securely Digitized



Customer

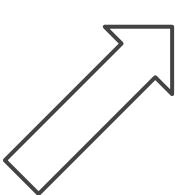


Debit Card



Interac / Presto App

Gemalto
Trusted Service Hub



Securely Digitized

NFC





THE IMPLEMENTATION

Presto and Gemalto: Who to Speak With?



Andrew Thornicroft

Partnerships at Metrolinx

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Didier Dahan

Strategic Partnerships at Thales

Contact

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1

Presto and Gemalto: Who to Speak With?



2

Host Card Emulation: Following Interac Flash's Footsteps

-
- 1 Host Card Emulation acts out functional responses of NFC cards → exact virtual representations of electronic identity cards
 - 2 Cryptographic processes → Leverages methods traditionally used by hardware-based secure elements without the physical secure elements
 - 3 Interac Flash → Interac already has experience working with HCE to bring Interac Debit onto NFC payments apps like Apple Pay

A photograph of three young adults laughing together. One person is in the foreground, another is in the middle ground, and a third is partially visible behind them. They appear to be looking at a screen, possibly a laptop or tablet, which is partially visible in the center.

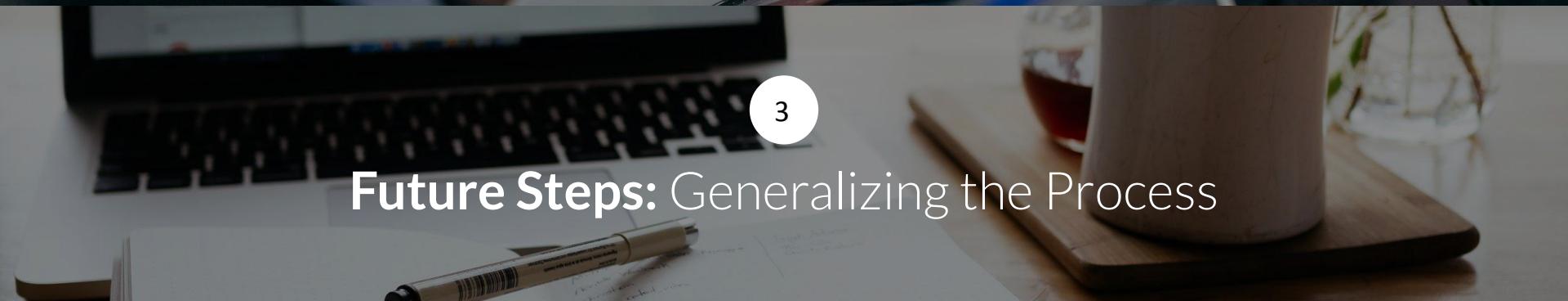
1

Presto and Gemalto: Who to Speak With?

A close-up photograph of a person's hand holding a smartphone. The phone is dark-colored and has a visible camera lens. The background is blurred, showing what might be a keyboard or other office equipment.

2

Host Card Emulation: Following Interac Flash's Footsteps

A photograph of a desk setup. In the foreground, there is a laptop keyboard, a pen lying on a piece of paper with some handwritten notes, and a white mug containing a dark liquid, likely coffee. In the background, there is a computer monitor and some other office equipment.

3

Future Steps: Generalizing the Process



Compass Card
Vancouver



PRESTO
Toronto

Carte OPUS
Montreal



MAKING TORONTO TRANSIT GO **MOBILE**.

1.2M passengers daily



~~2.5HRS~~ / person
40MINS / person

Thank you, Interac!

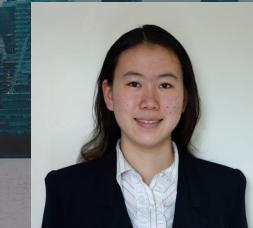
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