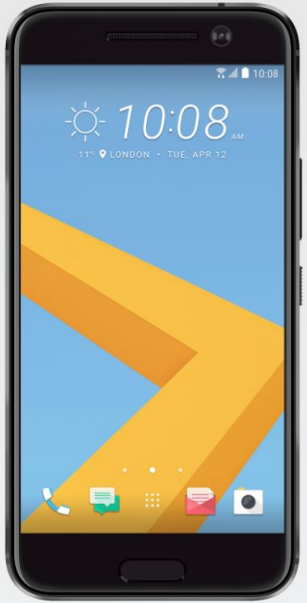
Google

Making the Android ecosystem safer

Adrian Ludwig
Director, Android Security


7:00
October 4
TUESDAY, 2016



HTC 10

LG V20

Moto X

Samsung Galaxy S7 Edge

Polar M600

Michael Kors Access
Bradshaw Smartwatch

Michael Kors Access
Dylan Smartwatch

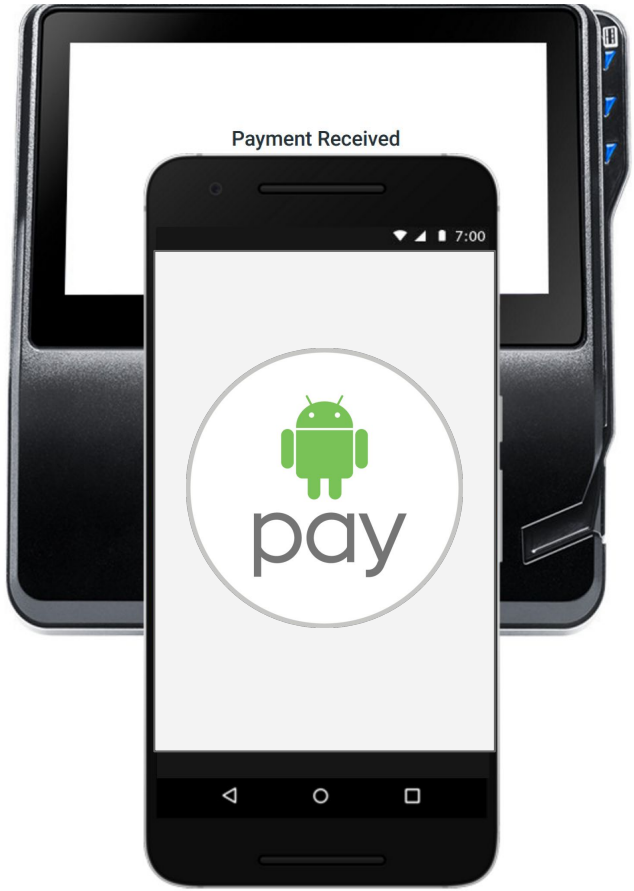
Fossil Q Wander

Fossil Q Marshal

Sony BRAVIA

Razer Forge TV

NVIDIA SHIELD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SET PICKUP LOCATION

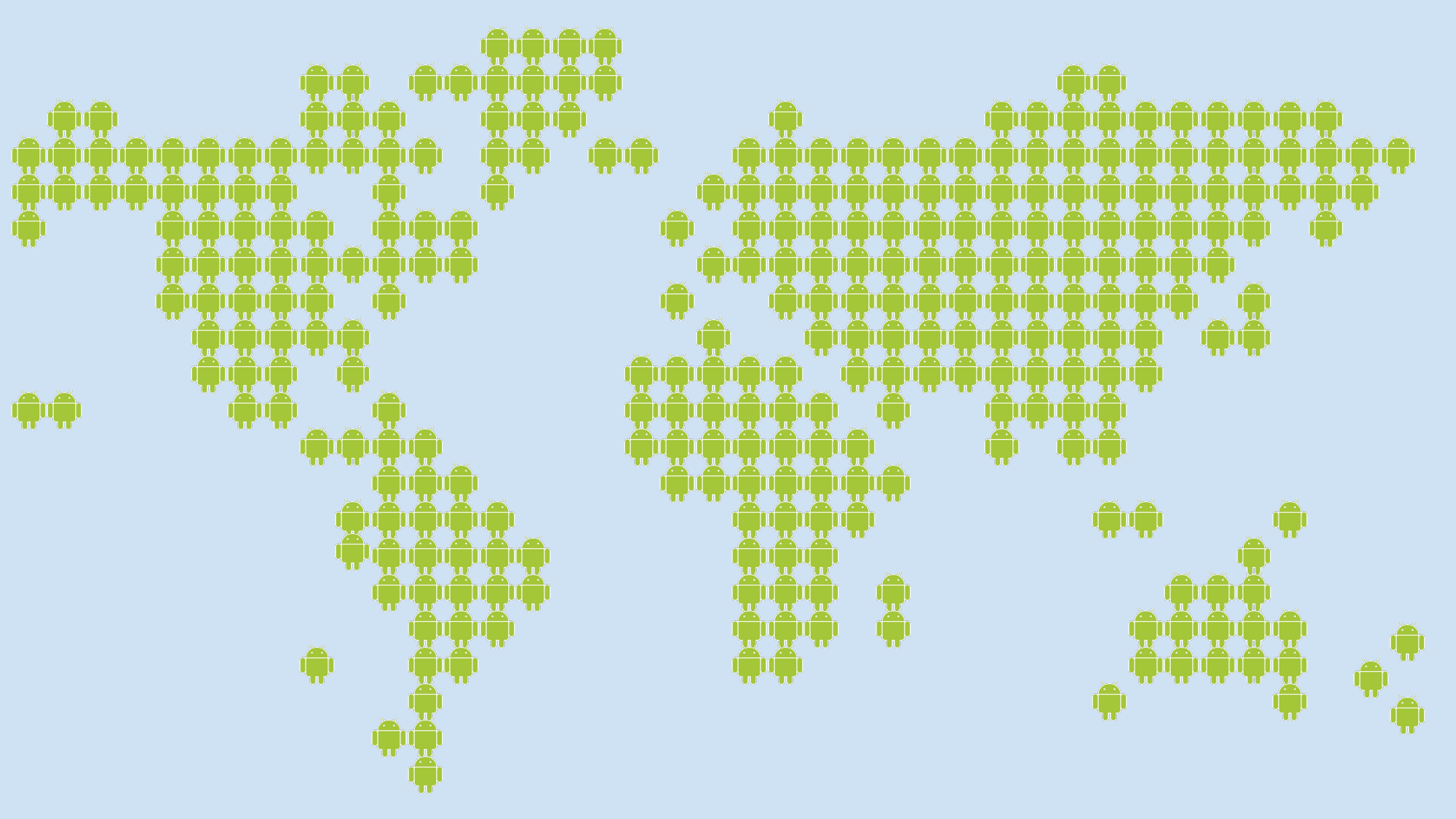
Photograph: Presidencia de la Nación Argentina

Google Maps is putting Europe's human-traffickers out of business

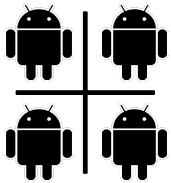
REUTERS/Alexandros Avramidis

Mass migration guided by mobiles and social media

Photograph: Herbert P Oczeret/EPA



Multi-layered security for everyone



App security

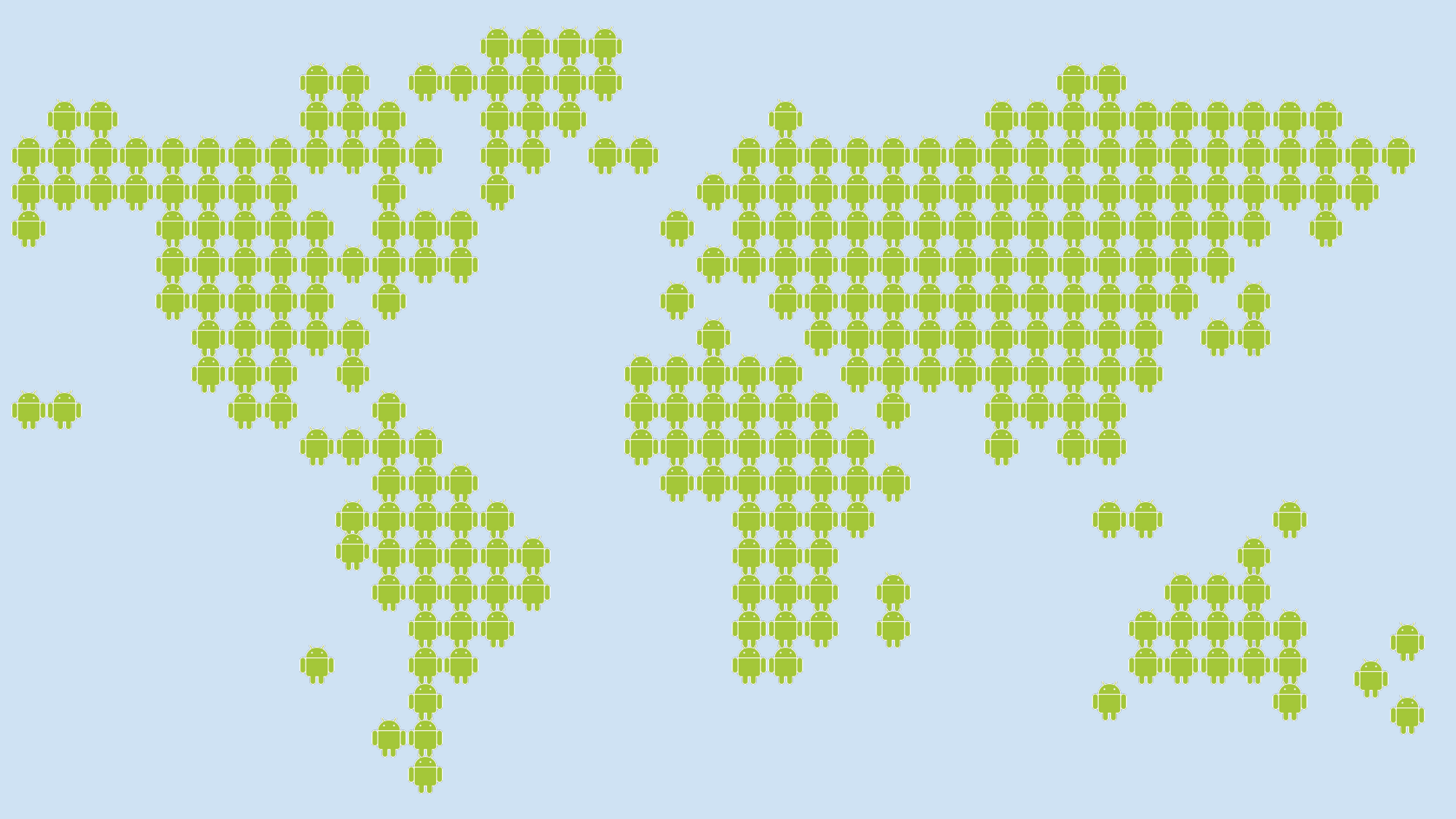
Operation system integrity and application sandboxes built-in.

Data protection

Data encryption, keystore, and secure lockscreens built-in.

Exploit Mitigation

Hardened media stack, updateable webview, ASLR, NX built in.



Android Safety Net

A data-driven, endpoint security solution built to protect Android users

1+ billion
devices protected

400 million
device scans per day

6 billion
apps checked per day

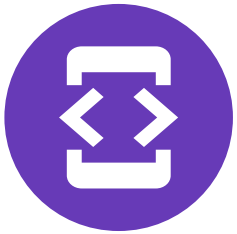
Google

android security

Verify Apps

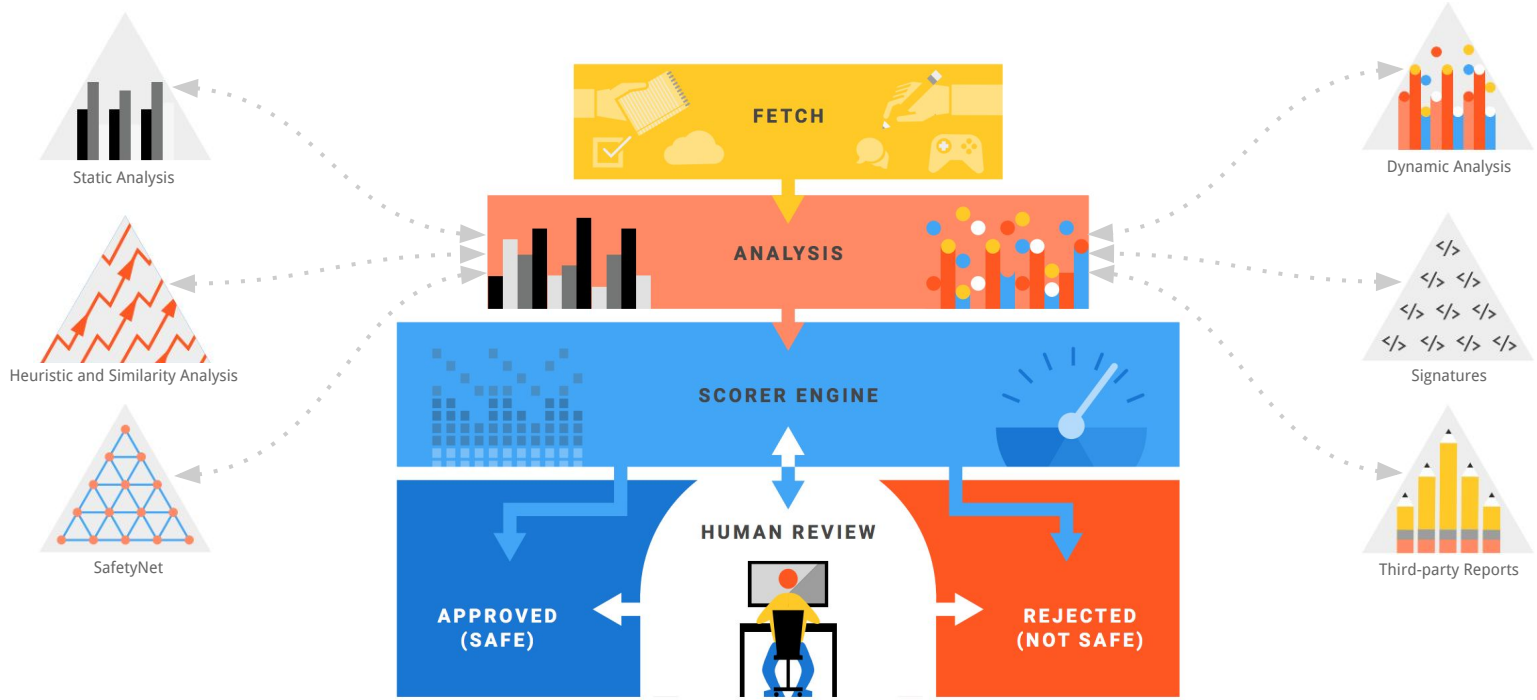
Sensor Network

Android Device Manager

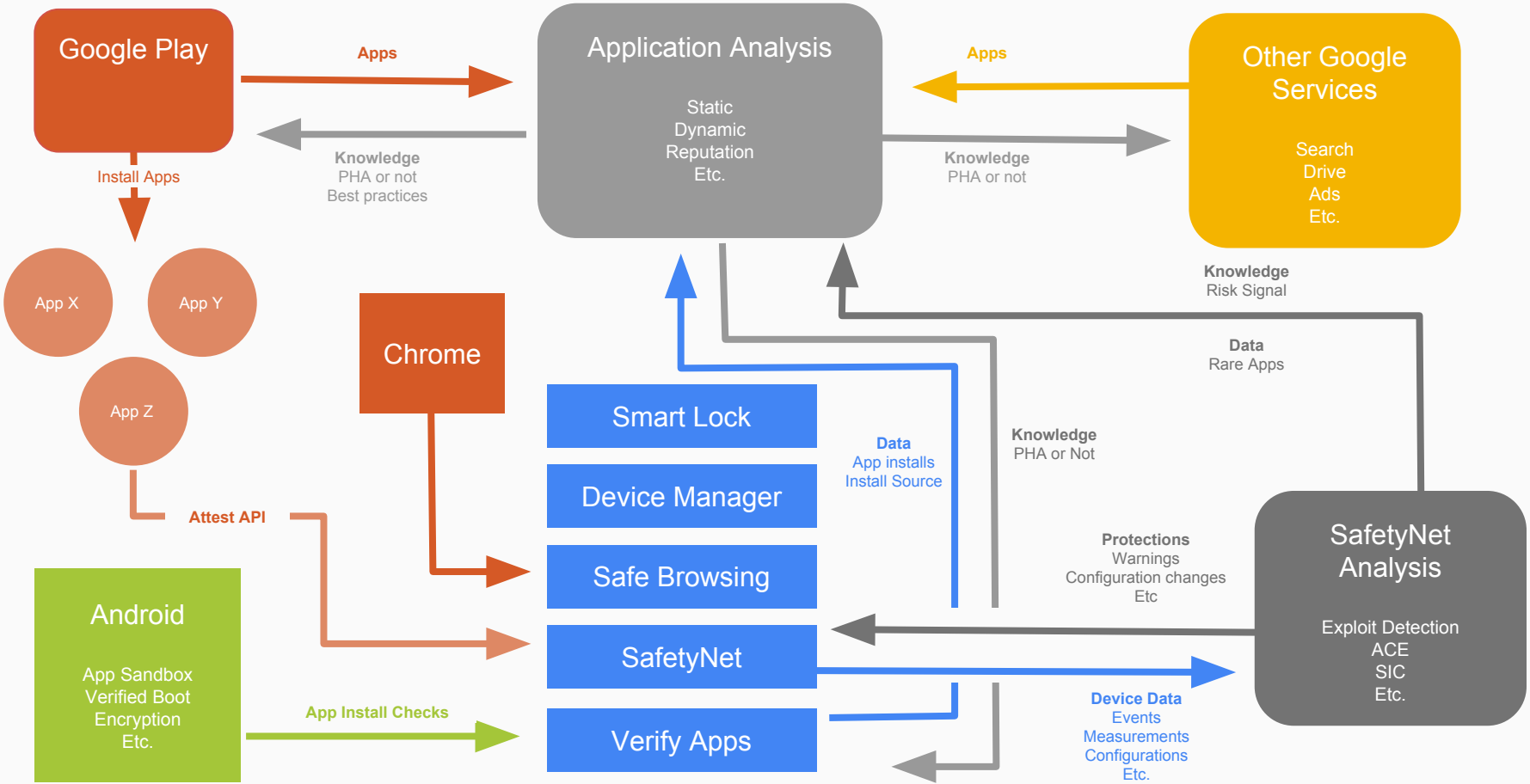


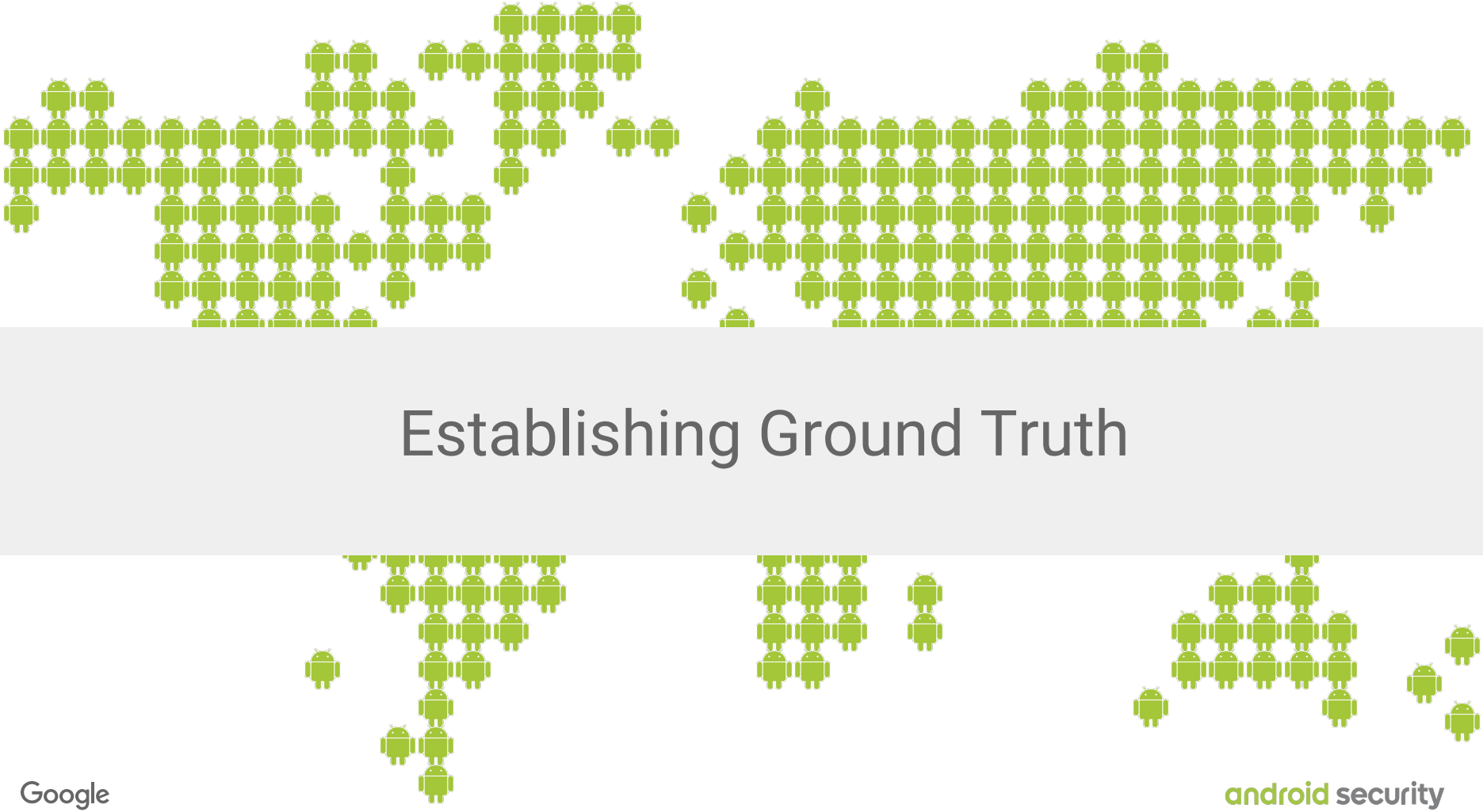
APIS

Application Review Process



Security Services Woven Into An Ecosystem





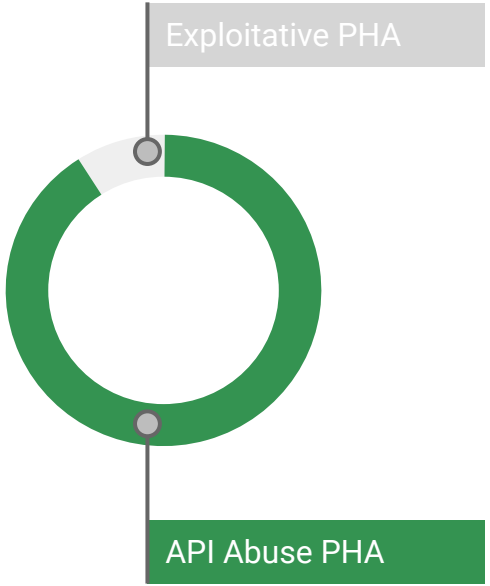
Establishing Ground Truth

Vulnerabilities and Exploits are Newsworthy

Vulnerability	Initial Claim Headline	Peak exploitation after public release (per install)	Exploitation before public release (absolute)
Master Key	99% of devices vulnerable	< 8 in a million	0
FakeID	82% of Android users at risk	<1 in a million	0
Stagefright	95% of devices vulnerable	None confirmed	None confirmed

Source: Google Safety Net Data; Masterkey data collected from 11/15/2012 to 8/15/2013 and previously published at VirusBulletin 2013. Fake ID data collected data collected from 11/15/2012 to 12/11/2014 and previously published at the RSA Conference 2015. Stagefright data current through May 2016.

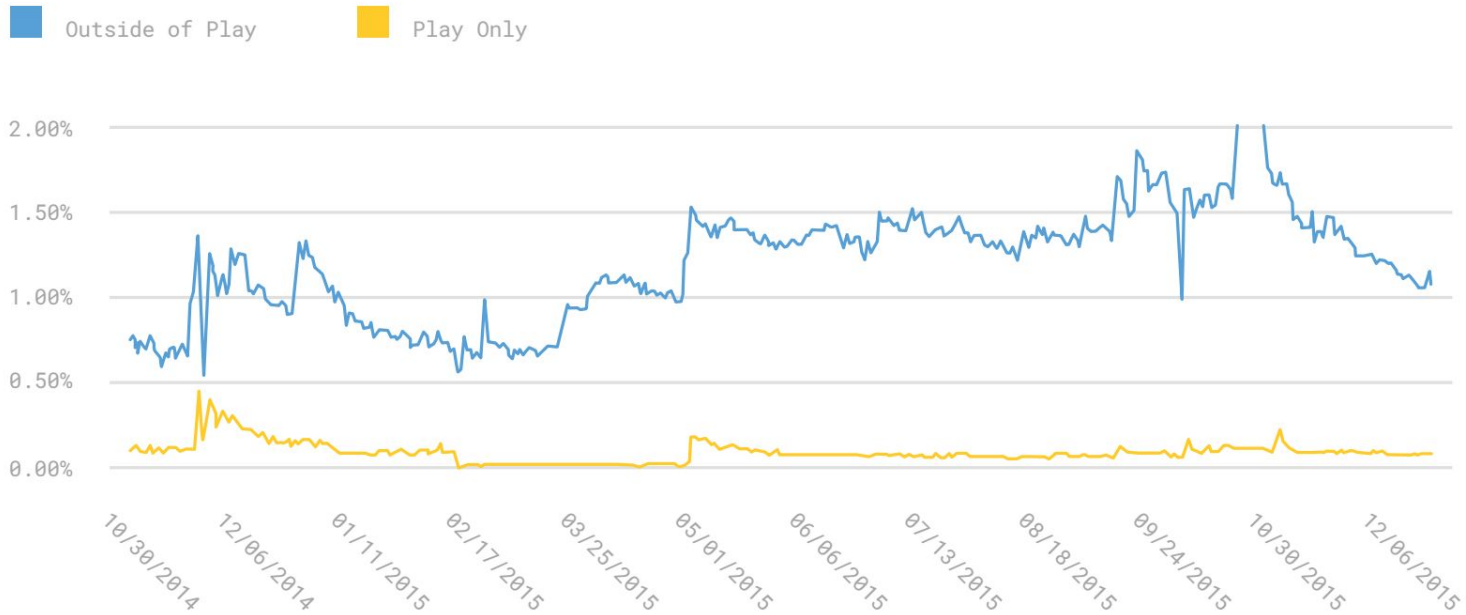
- Majority of PHAs stay within the Security model (e.g. no exploits)
- Social Engineering is typical distribution mechanisms



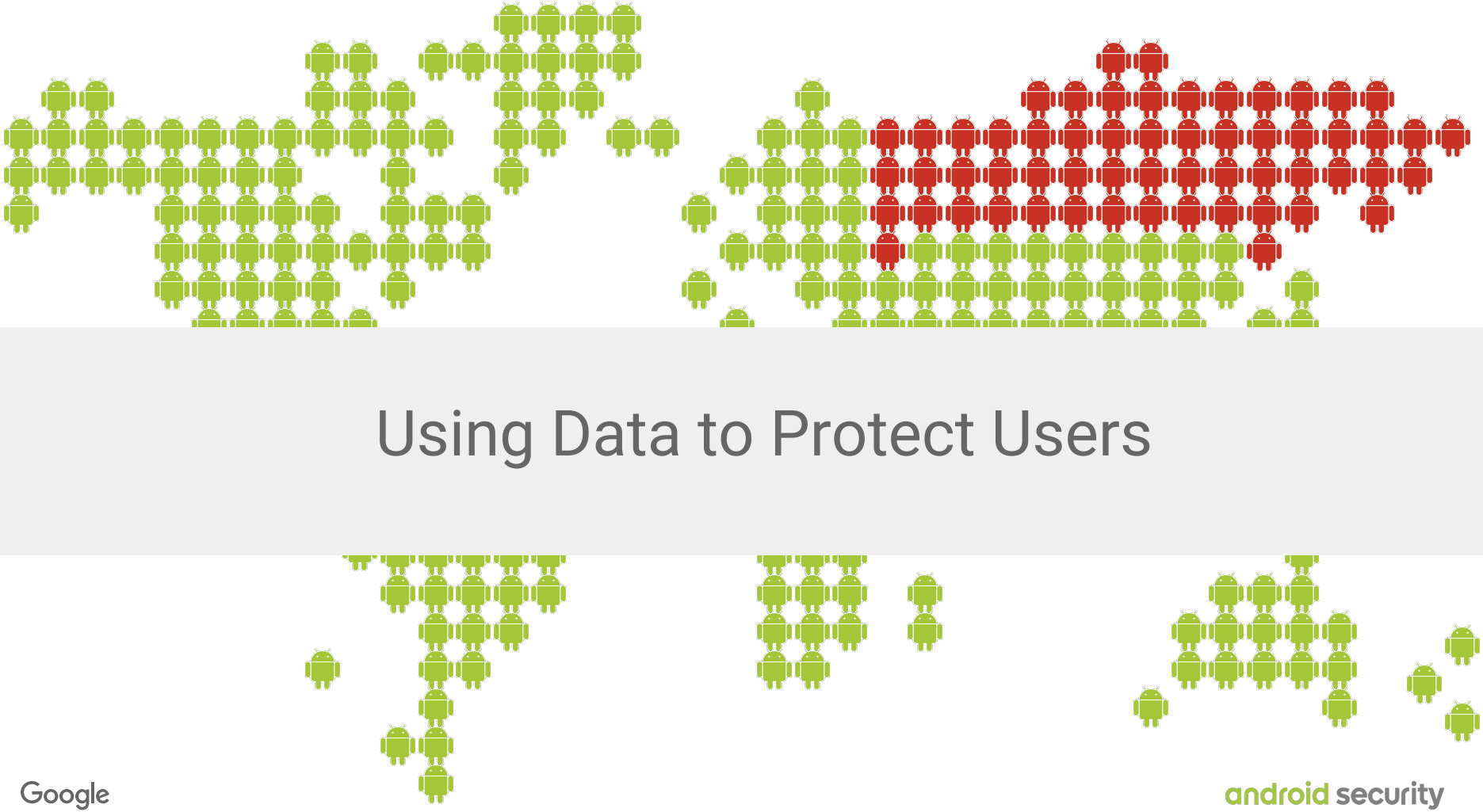
Android Devices with Known PHA

Source: Android Security 2015 Year in Review

Android Devices with Known PHA

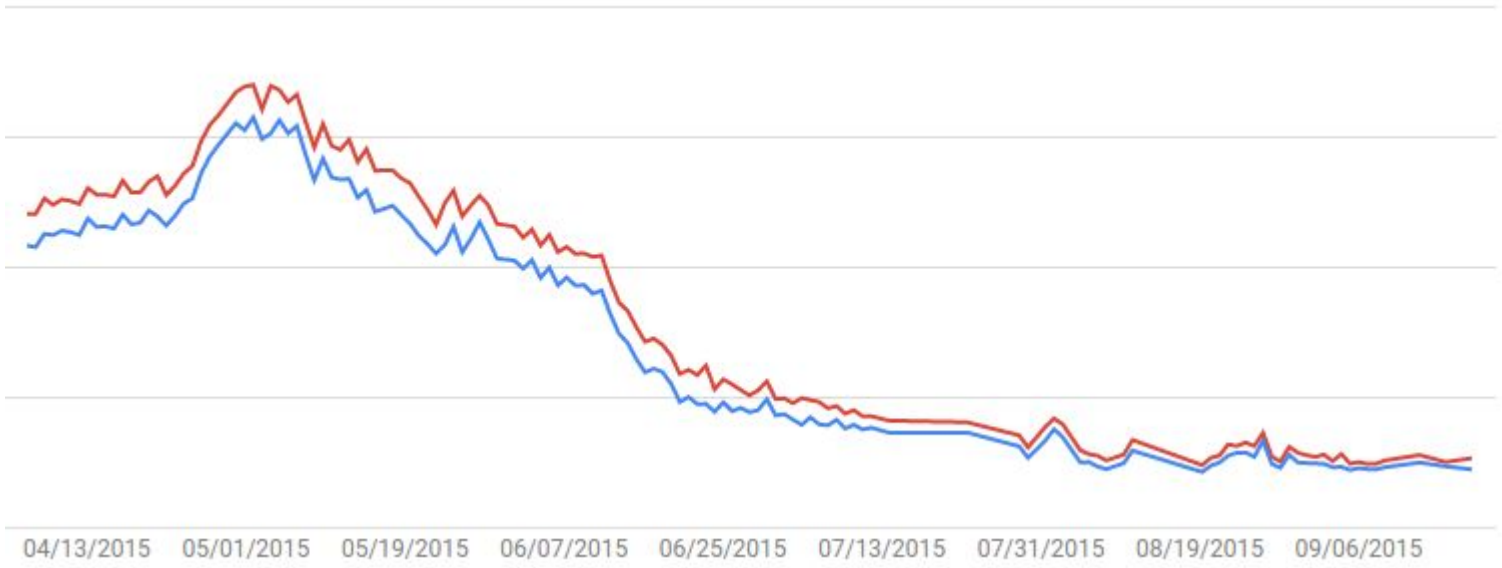


Source: Android Security 2015 Year in Review



Using Data to Protect Users

80% Reduction of Russian Bank Phishing Trojans



Affected devices in Russia
Affected devices worldwide

Source: Android Security 2015 Year in Review

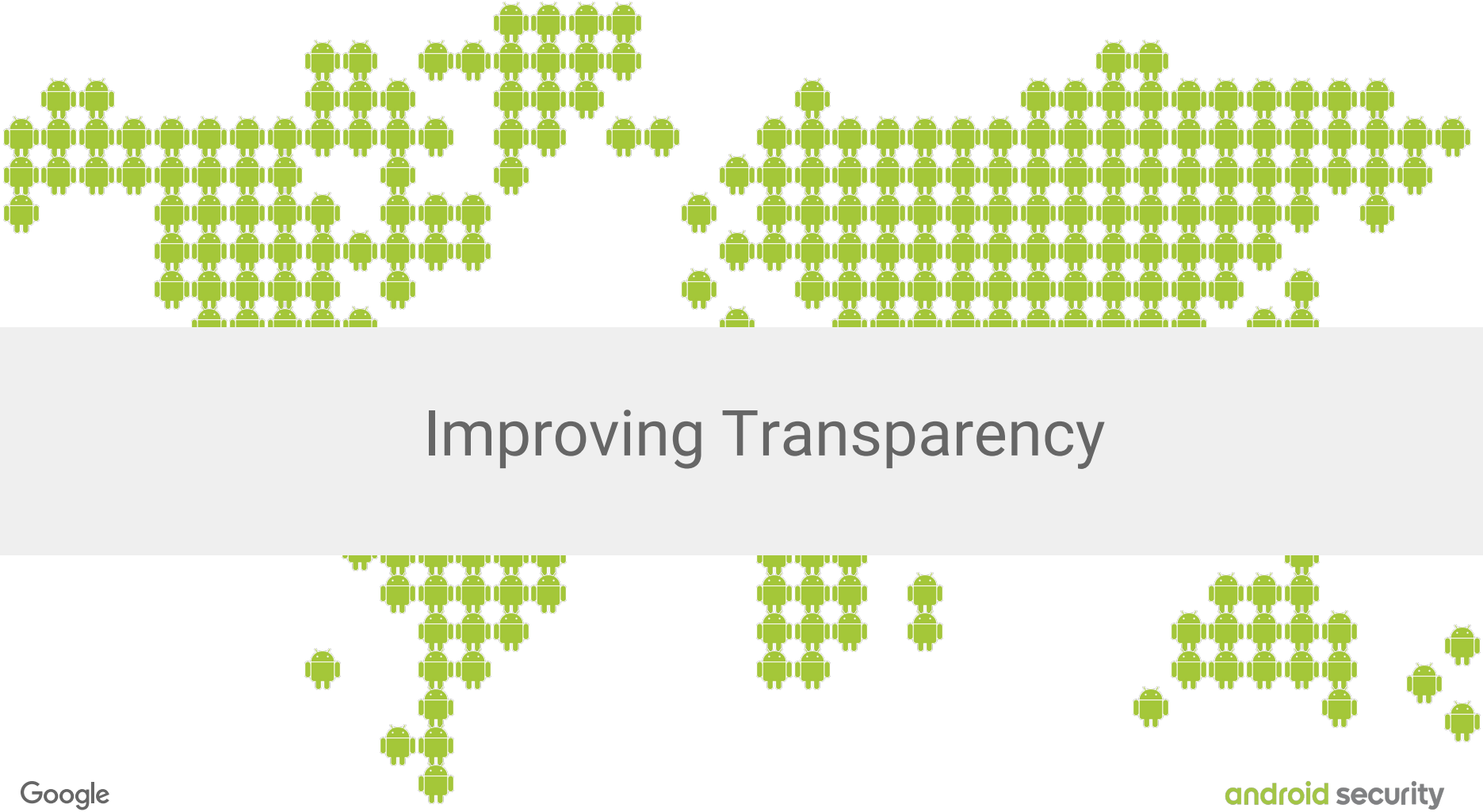
Enabling Application Security

Application Security Improvement

Over 100,000
apps fixed in 2015

`SafetyNetApi.attest`

Protecting millions of app events every day



Improving Transparency

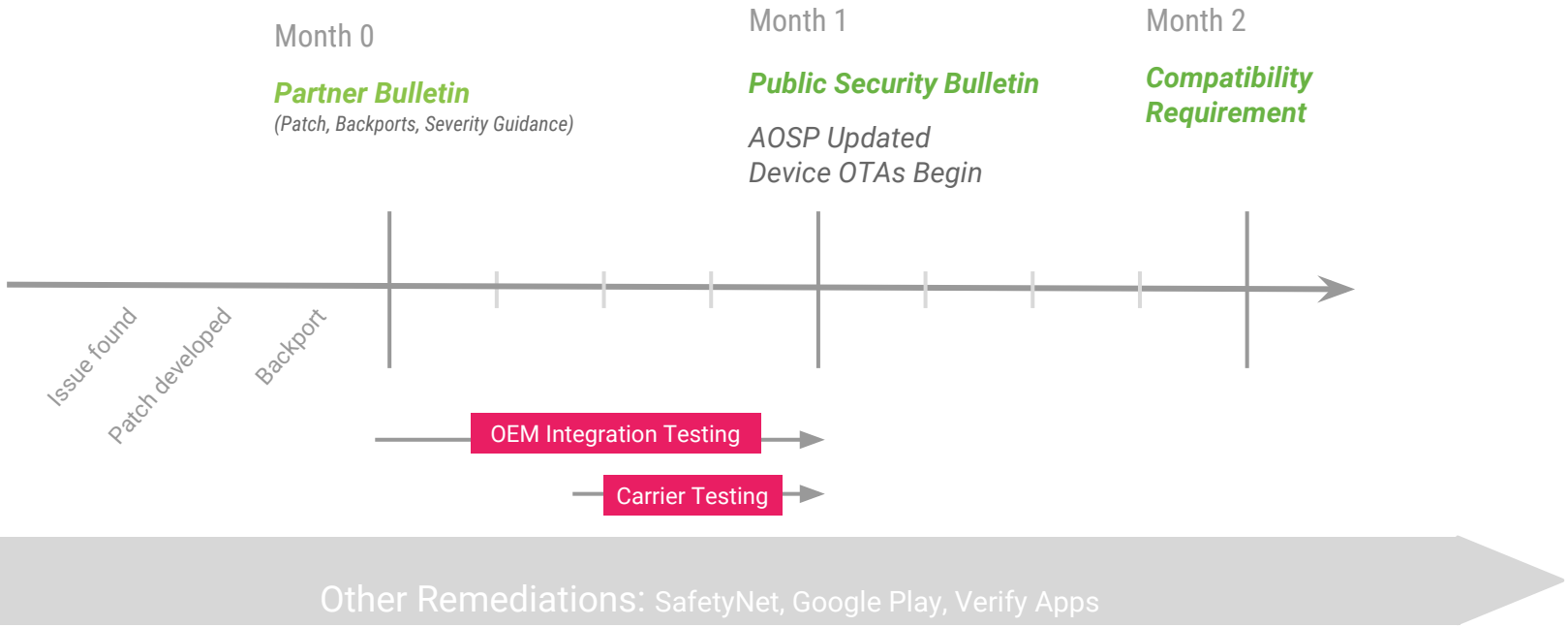
nexus Pixel

Monthly Security Updates

Monthly Security Bulletins

3 years from device availability

Android Security Monthly Process




SAMSUNG


LG


BlackBerry®

Enabling more (effective) security research

g.co/AndroidSecurityRewards

Over $1 million
paid to date

Open Ecosystems Foster Innovation

millions

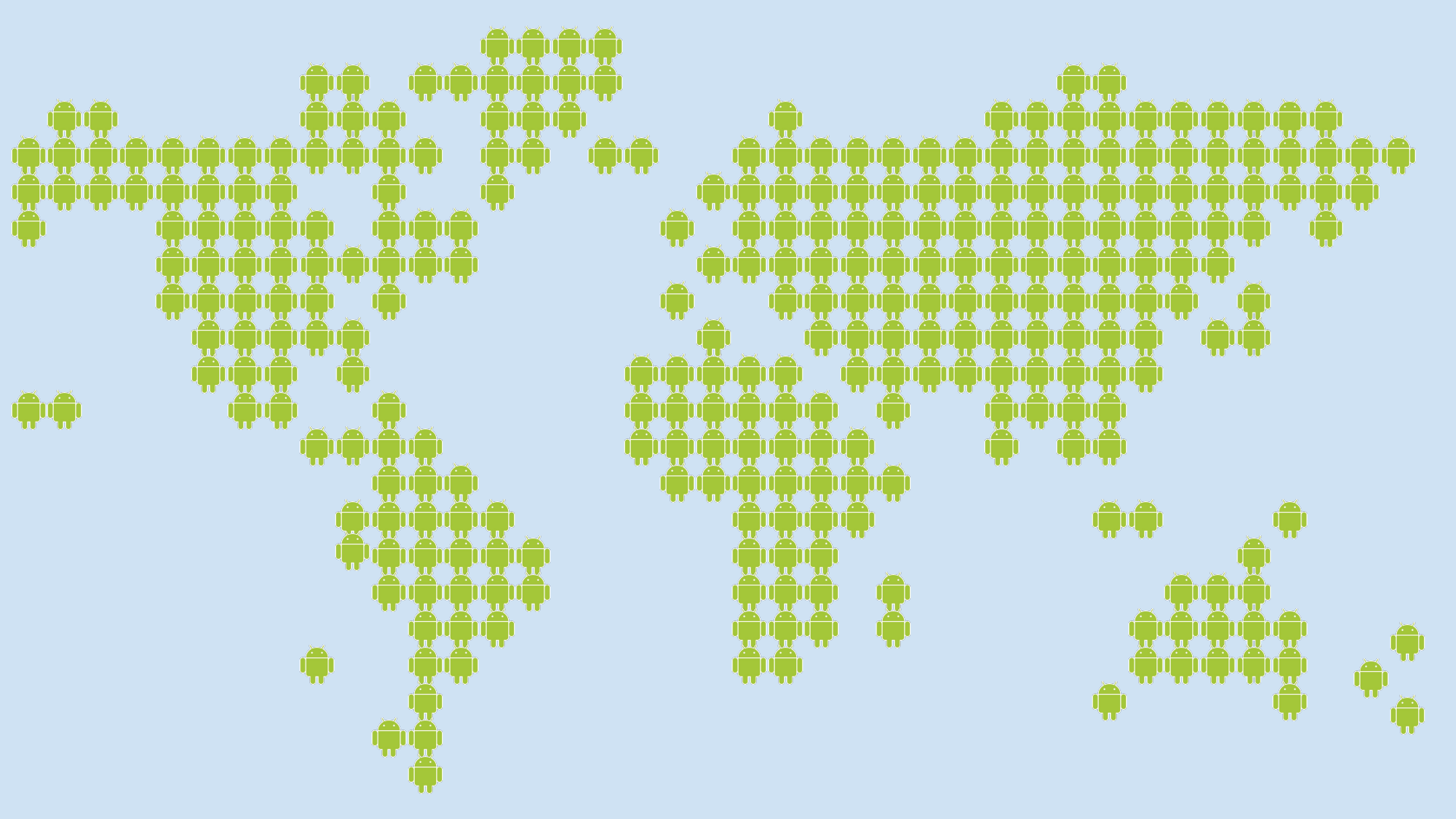
of lines of code in Android Open Source

thousands

of unique devices

hundreds

of OEMs and security solutions



security@android.com