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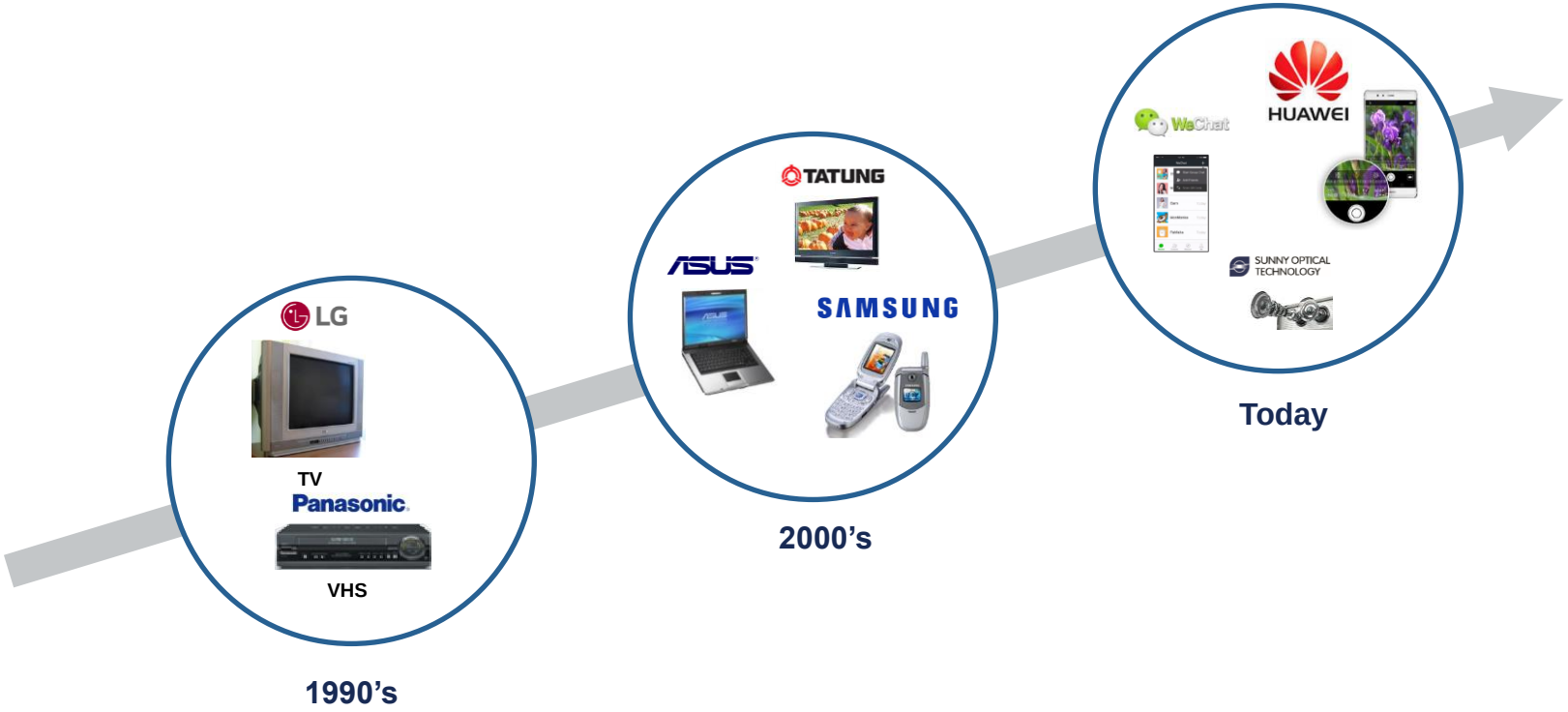
When Asia is ahead of the Developed World

September 2016

Jean-Louis Scandella

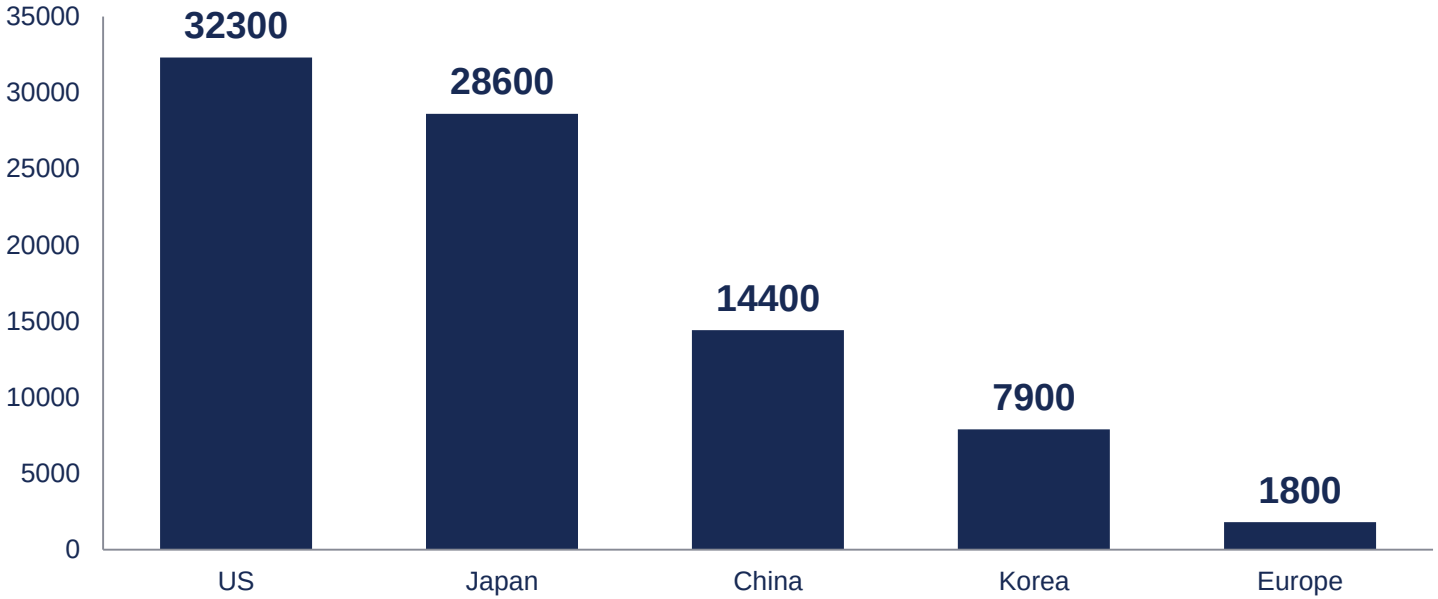
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What were foreign investors invested in?



Patent Filing across the World

Number of patents in different regions in 2013

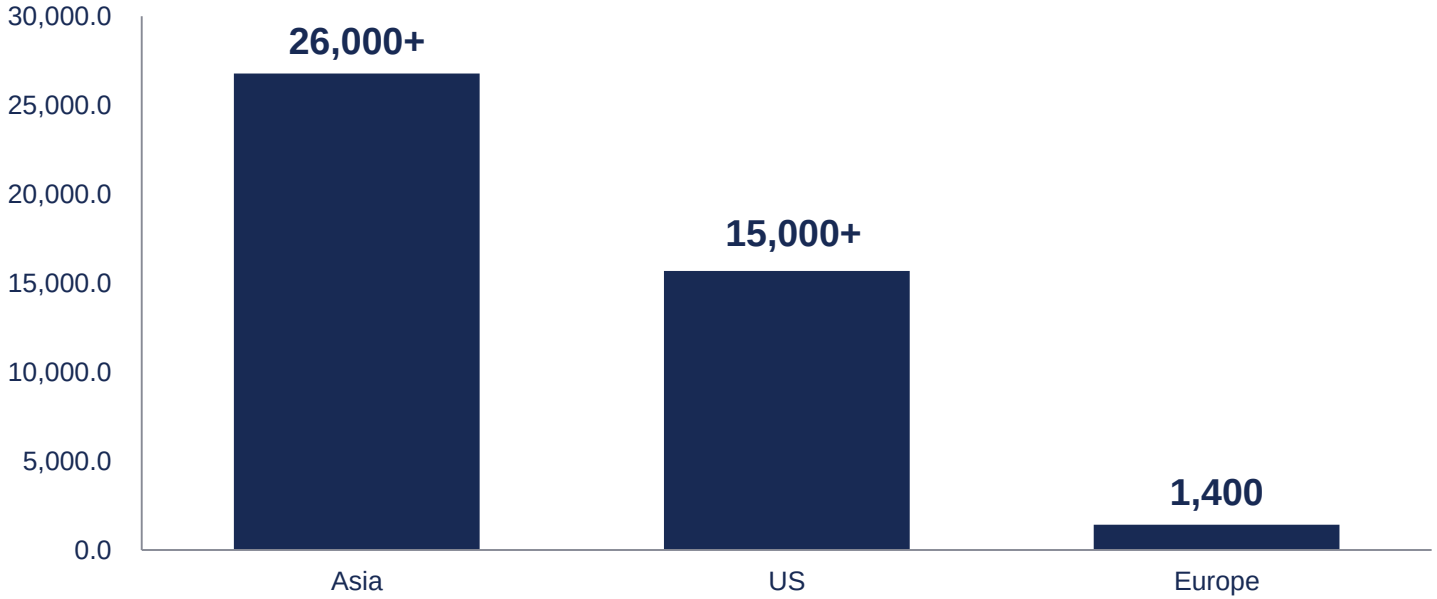


Data based on top 20 cities by patent filing in 2013

Source: Ernst & Young, Citi Research, Barings, September 2016

Information and Communication Technologies (ICT) patent filing

ICT patent filing in different regions in 2013

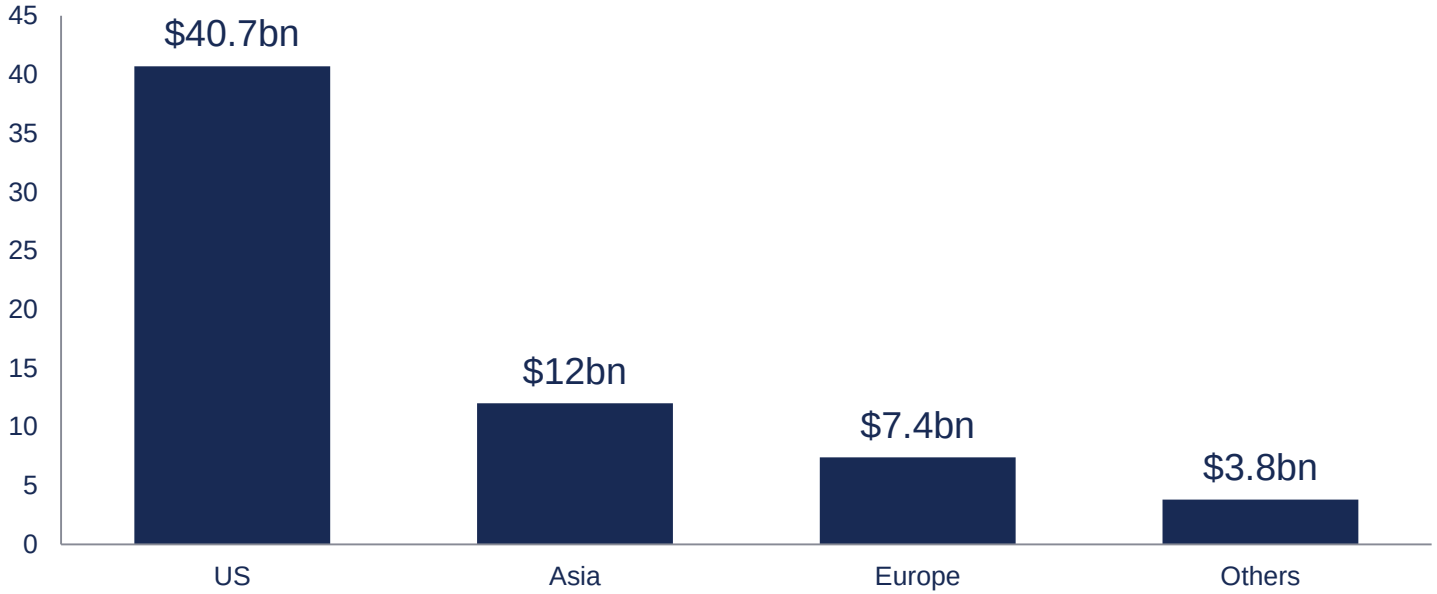


Data based on top 20 cities by ICT patent filing in 2013

Source: Ernst & Young, Citi Research, Barings, September 2016

Venture Capital Investment in Different Regions

Venture Capital investment in different regions in 2014 (billion USD)

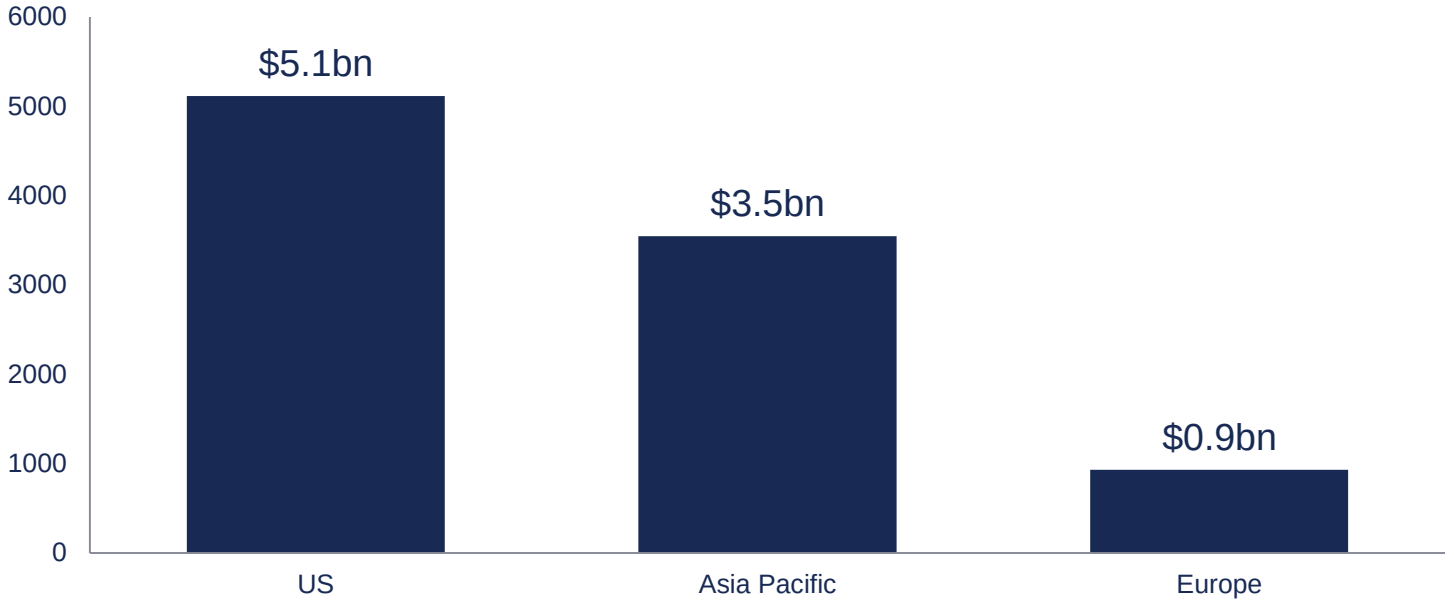


Data based on top 20 cities by venture capital investment in 2014

Source: Ernst & Young, Citi Research, Barings, Sep 2016

FinTech Investment By Region

FinTech Investment By Region (Billion USD)



The following geographical areas included: Australia, California, China, Germany, Hong Kong, New York, Singapore, UK

Source: Ernst & Young, Citi Research, Barings, September 2016

Today's Leaders

Innovation
Tencent (by Titus Wu)

Leading-edge Technology
Samsung (by Eunice Hong)

High-margin Exports
Sunny Optical (by Nicola Lai)

BARINGS

Tencent

September 2016
Titus Wu

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Weixin / WeChat

The all-round social network platform

Tencent 腾讯

Weixin & WeChat

762mn Monthly Active Users mainly in China
95% users open it daily
60 mins average daily time spent per user

Messaging	★★★
Social networking	★★★
Mobile games	★★★
E-commerce	★★★
O2O	★★★
E-finance	★★★
Advertisement	★★

facebook

1,712 mn Monthly Active Users globally
70% users open it daily
45 mins average daily time spent per user

Messaging	★★★
Social networking	★★★
Mobile games	★★
E-commerce	★
O2O	★
E-finance	★
Advertisement	★★★

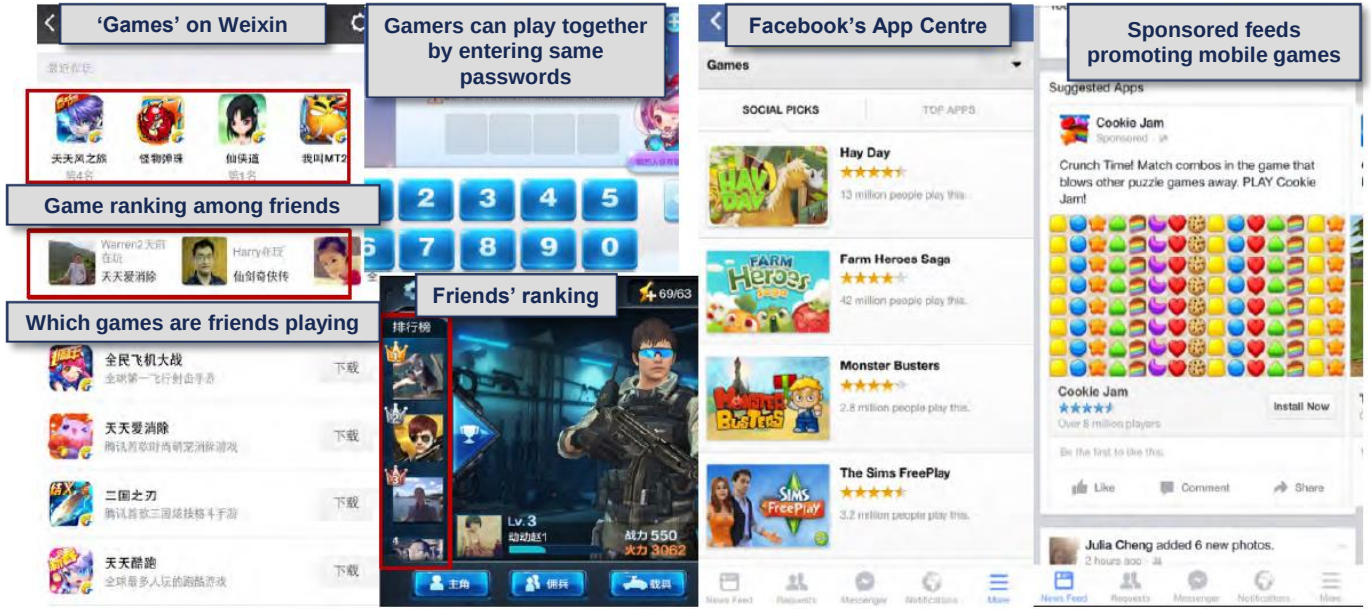
Source: Company Presentations; Barings; Aug 2016

BARINGS

Weixin / WeChat

Mobile Games √

You can play games in WeChat; while Facebook is mainly a game ad platform

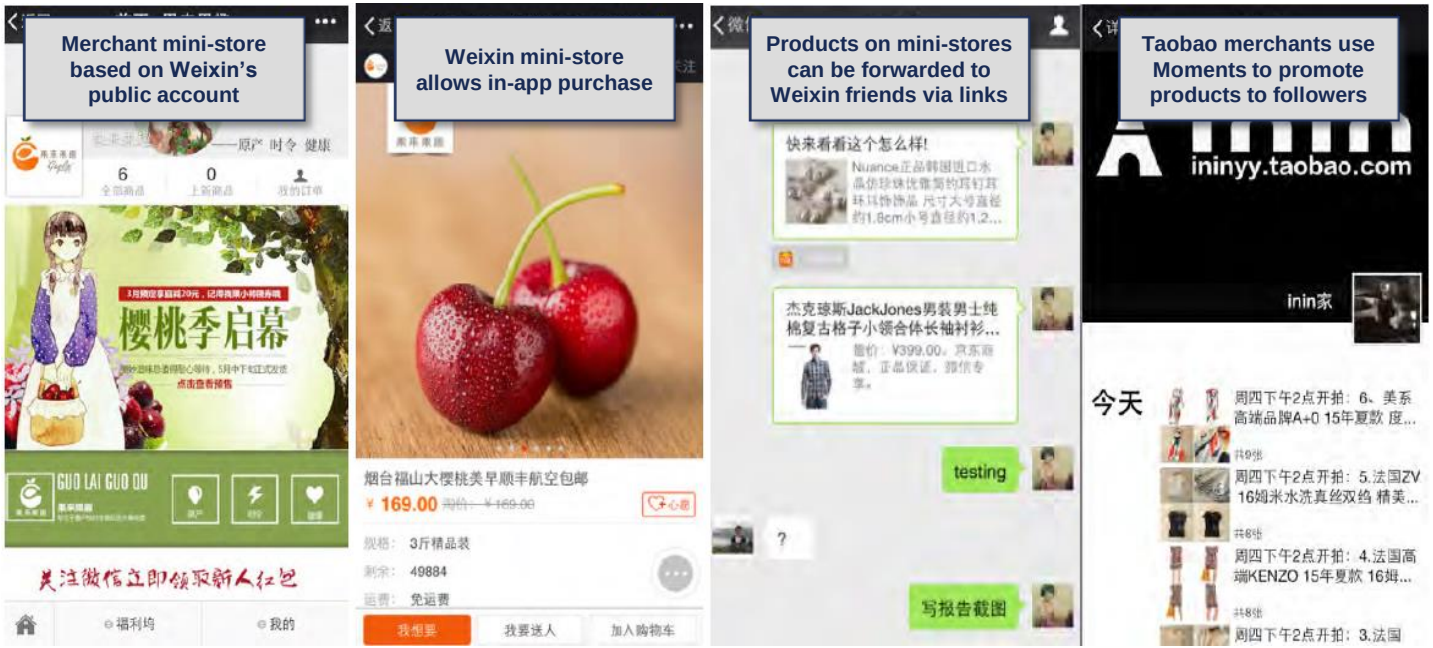


Source: Barings; Weixin; CLSA Research; Aug 2016

Weixin / WeChat

E-commerce √

Merchants can sell goods directly in WeChat, as well as promote them to followers



Source: Barings; Weixin; CLSA Research; Aug 2016

Weixin / WeChat

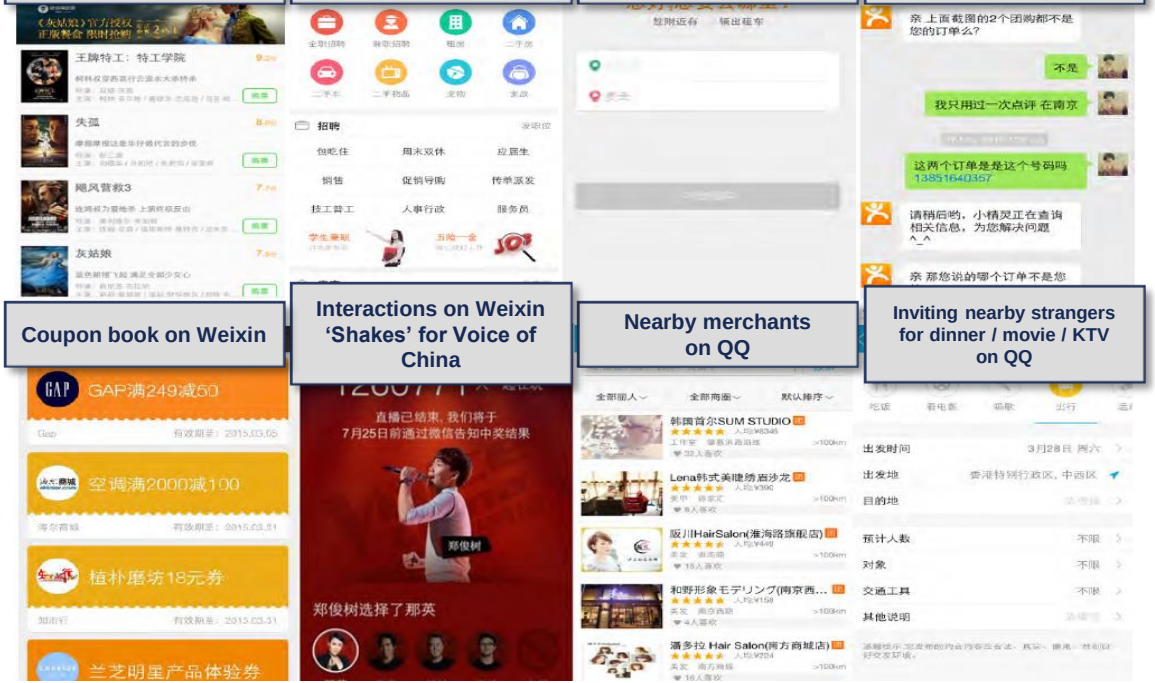
O2O - Taxi, Tickets, Rents, Eats… √

Movie tickets sales on Weixin

58.Com in Mobile QQ

Taxi hailing in Weixin

Talking to customer services or Dianping on Weixin



Coupon book on Weixin

Interactions on Weixin 'Shakes' for Voice of China

Nearby merchants on QQ

Inviting nearby strangers for dinner / movie / KTV on QQ

Source: Barings; Weixin; CLSA Research; Aug 2016

Weixin / WeChat

WeChat ADs – A unreleased Kraken

- WeChat ADs only contributes 2% to Tencent's revenue in 2015
- While over 95% of Facebook's revenue is from ADs

Text and image
Post text and image ads in Moments and Official Accounts to connect and engage with target users



Short video clips
Autoplay short video commercials in news feed to promote engagement



eCoupon
Show electronic coupons at the bottom of news articles in Official Accounts



Source: Barings; Company Presentations; Aug 2016

Weixin / WeChat

Tencent Scorecard

Company name	Tencent	
Quality	Franchise	1.5
	Management	1.0
	Balance sheet	1.0
	Overall	1.2
Growth	Last three years	1.0
	Next 12 months	1.0
	CAGR next five years	1.0
	Overall	1.0
Upside	Market measure	5.0
	Static measure	5.0
	Discounted earnings	1.0
	Overall	3.7
Stock score		1.9

Source: Barings; 31 Dec 2015
For illustration purpose only

Tencent 腾讯

- Dominance in China social media platform, online entertainment, media and mobile utilities.
- The vertically integrated platform in online/mobile games enables Tencent to capture the growth of the sector while mitigate the individual game product risk through diversification
- The stickiness of WeChat users create a loyal user base with constant engagement. Tencent is monetizing the user base through mobile advertising and internet banking services
- With extensive investment in E-commerce, O2O, OTA, Finance, and media segments, Tencent has built up an all-round ecosystem in internet space.

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Samsung Electronics

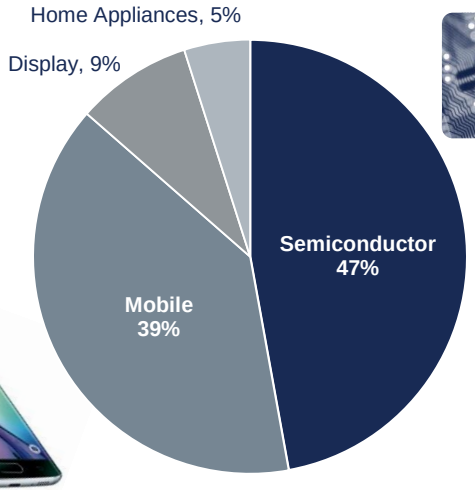
The global technology leader
September 2016
Eunice Hong

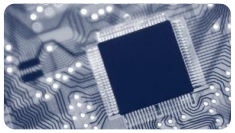
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Samsung Electronics

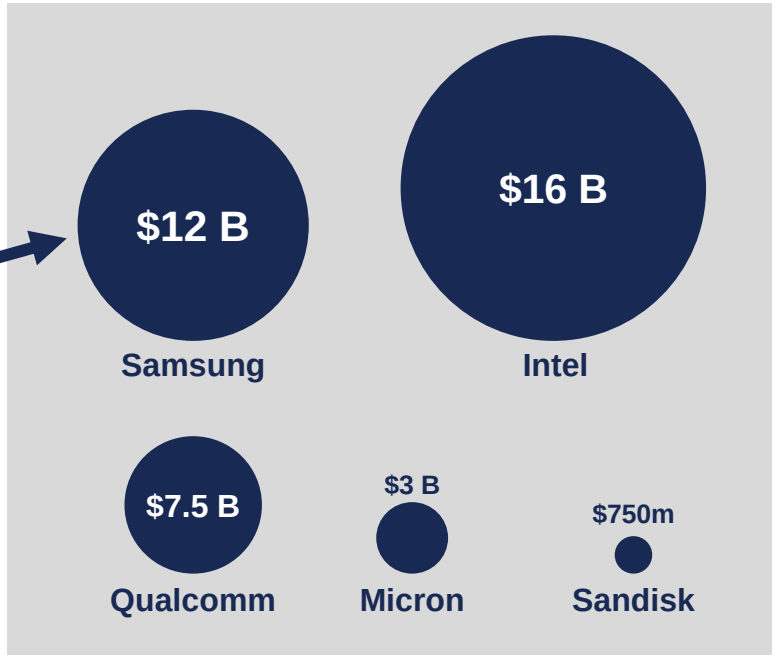
More than Galaxy

Operating Profit









Samsung is more than just a smartphone maker

Source: Operating Profit 2015; Official data of each company, Barings Aug, 2016; images from http://www.nttcom.tv/2012/03/12/ntt-researchers-build-optical-memory-chip/

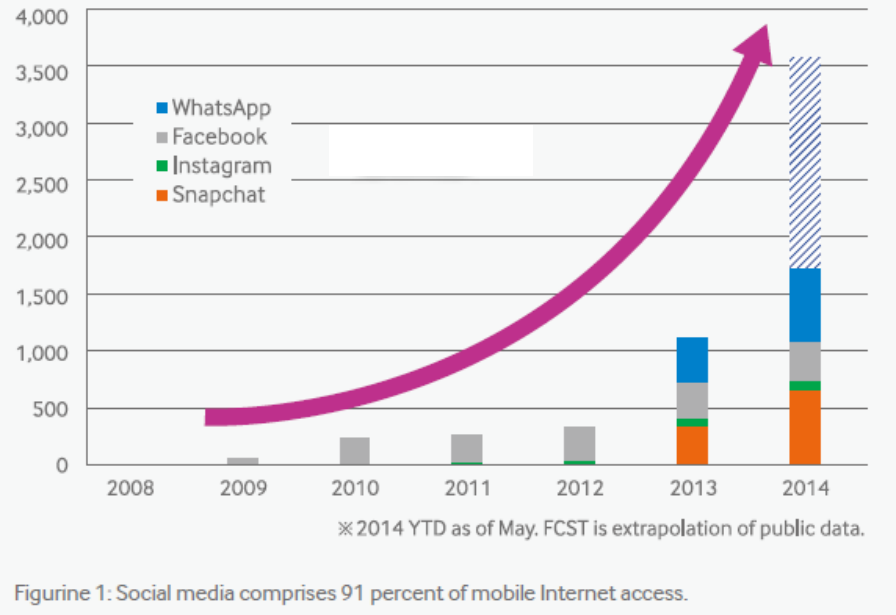
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Demanding Memory Environment

Demand for Memory Storage – Data Explosion

Exponential Growth: 3.6B Photos/Day

Daily photo uploads



Figurine 1: Social media comprises 91 percent of mobile Internet access.

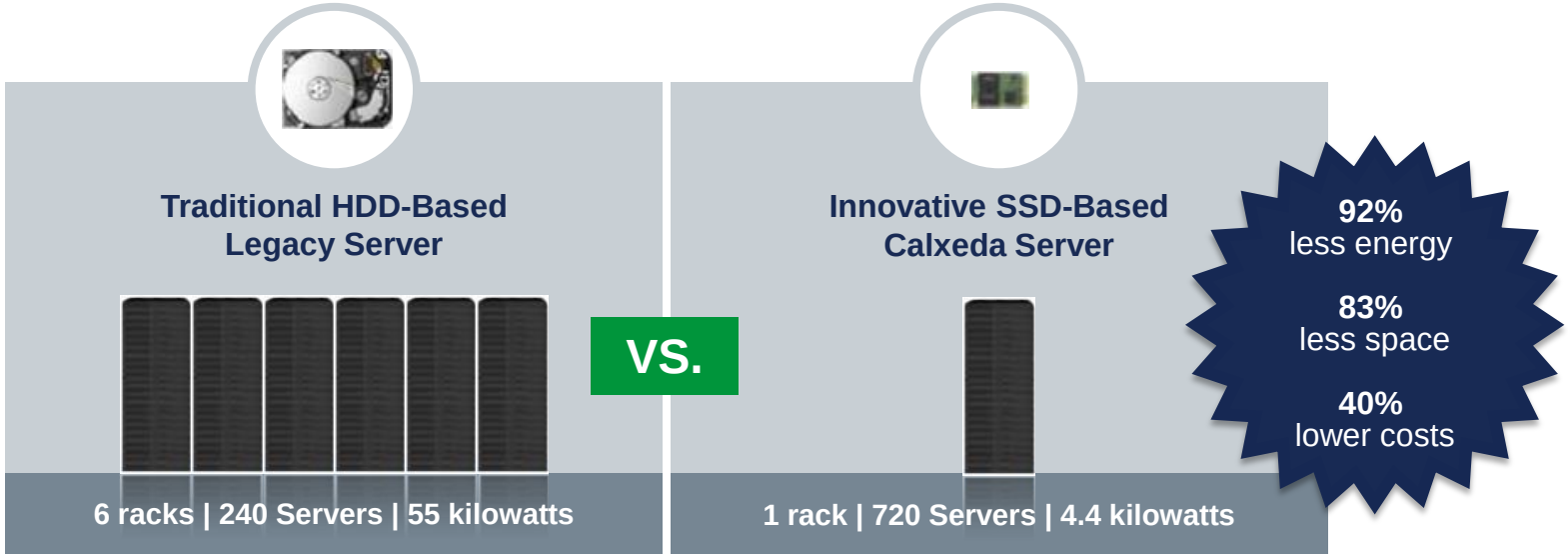
Exponential growth in data demand

Source: Samsung V-NAND technology, Sep, 2014; http://www.samsung.com/us/business/oem-solutions/pdfs/V-NAND_technology_WP.pdf

Changing Memory Environment

Server SSD (data center, etc.) demand growth leader

Lower power and smaller space of SSD save costs for data center



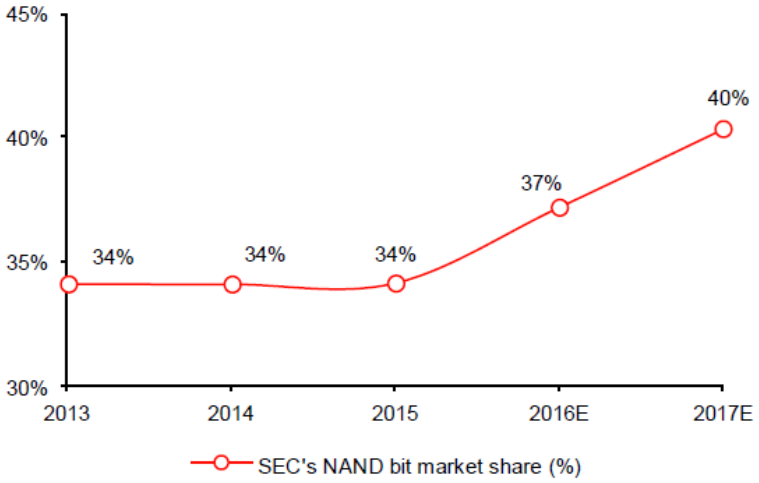
Total Cost of Ownership (TCO) already lower for NAND in servers in some respects

Source: Calxeda Corporation Data, SanDisk Data, Morgan Stanley Research, September 2016

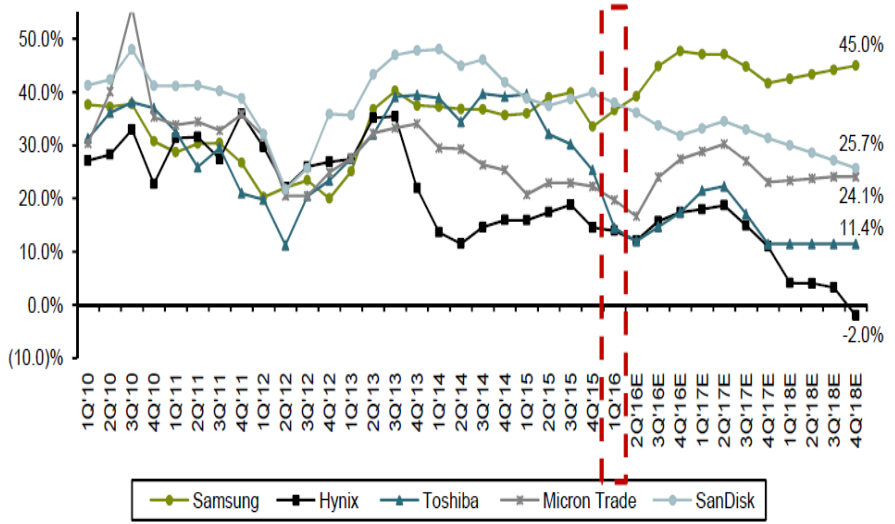
Leading global technology

3D NAND leadership

3D NAND leadership leading to Samsung gaining NAND market share (%)



NAND gross margins by company



Samsung's strong presence in the fastest growing NAND demand segment

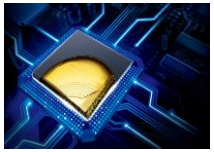
Source: Company data, Macquarie Research, June 2016; IDC, J.P. Morgan. Note: WDC-SNDK numbers arrived at by adding WDC and SNDK market shares, July 2016

Samsung Electronics

Global leader in semiconductor

Company Score Card

Company name	Samsung Electronics	
Quality	Franchise	1.0
	Management	1.0
	Balance sheet	1.0
	Overall	**1.0**
Growth	Last three years	2.0
	Next 12 months	1.0
	CAGR next five years	2.0
	Overall	**1.7**
Upside	Market measure	1.0
	Static measure	1.0
	Discounted earnings	1.0
	Overall	**1.0**
Stock score		**1.2**



- Main beneficiary of the secular demand growth for big data storage
- Strong presence in semiconductor market leveraging on its technology leadership (3D NAND, DRAM, OLED, etc)
- Beneficiary of secular demand growth in the better hardware specification and evolution of new technology
- Improving shareholder return, easing concerns over cash management and corporate governance

For illustration purpose only. Source: Barings; 31 Dec 2015

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Sunny Optical

Home-Grown Global Leader in Optics
September 2016
Nicola Lai

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Eyes are Everywhere

And growing….










The availability and affordability of cameras is changing our lives

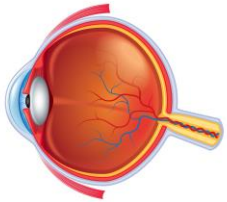
Source: CLSA, Getty Images, September 2016

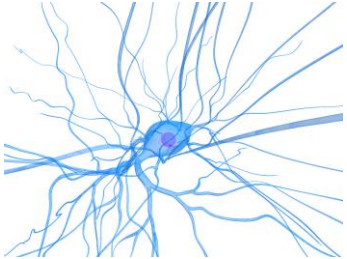
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From Eyes….

The Next Technology Evolution

Light







Information

Human eye Optical nerve Brain

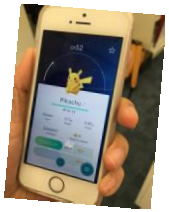
Source: Orbis Systems, Barings, September 2016

… To Smart Eyes

The Next Technology Evolution

Lens in smartphones enable Augmented Reality (AR)





Lens in cars enable Autonomous Driving





Lens in machines enable Machine Vision



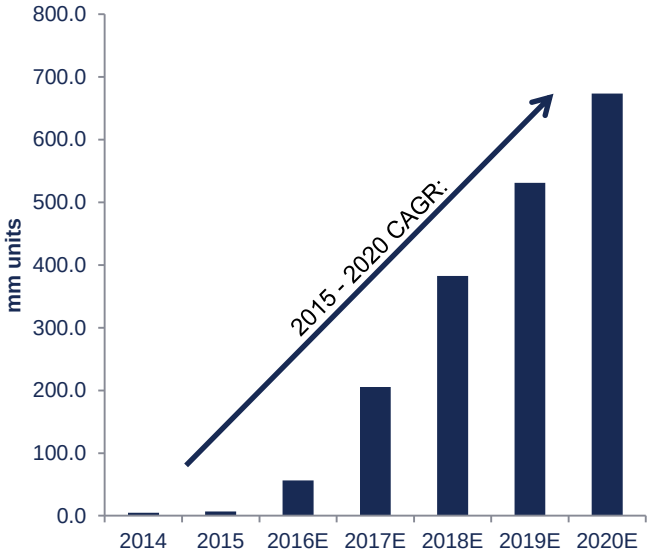


Source: Company data, Orbis Systems, Macquarie, Getty Images, Barings, September 2016

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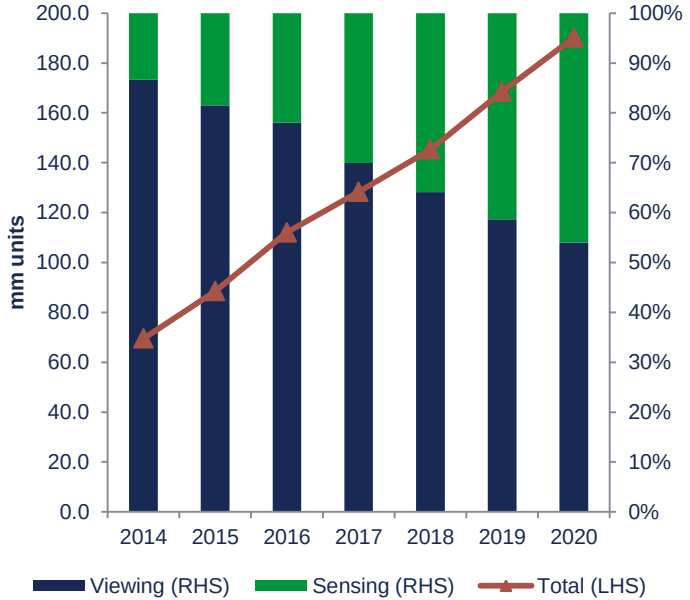
Camera and Camera Lens Market to Explode

Dual Camera Growth Forecasts



Source: Deustche Bank, Sep 2016

Vehicle Lens Growth Forecasts

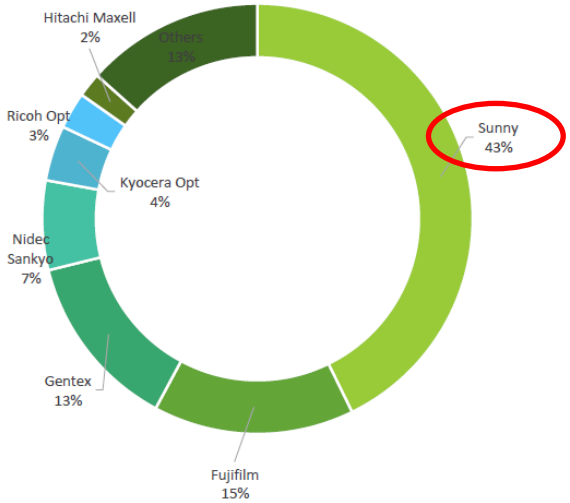


Source: TSR (Techno Systems Research), Sep 2016,

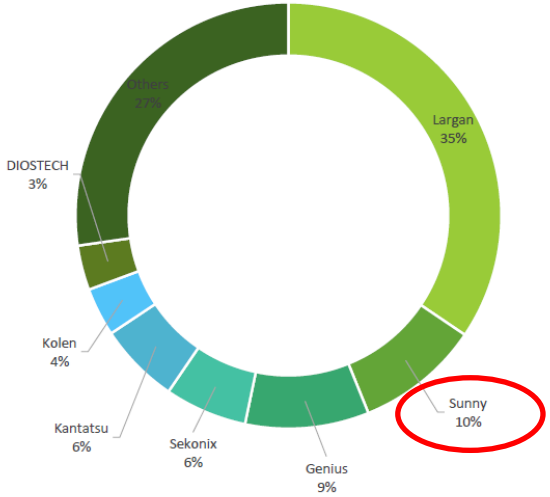
Global Leader in Auto Lens

Emerging Leader in Smartphone Cameras

Strong global market positioning



Global #2 handset lens maker



A diversified product portfolio and end-applications that spans smartphone, automotive, drone, virtual reality (VR) and AR and others

Source: TSR, Sep 2016

Home-grown Leader in Optics

Company Scorecard

Company name	Sunny Optical	
Quality	Franchise	2.0
	Management	2.0
	Balance sheet	1.0
	Overall	1.7
Growth	Last three years	1.0
	Next 12 months	1.0
	CAGR next five years	1.0
	Overall	1.0
Upside	Market measure	4.0
	Static measure	1.0
	Discounted earnings	2.0
	Overall	2.3
Stock score		1.7

SUNNY OPTICAL TECHNOLOGY

- **A Quality Franchise:** Sunny Optical's vehicle and handset lens business carry high entry barriers. ROEs will almost double by 2020. Net cash balance sheet with increasing free cash flow generation from 2015 onwards.
- **Strong and Sustainable Growth:** from capturing the exponential volume growth areas in the industry and product value upgrades.
- **Premium valuations justified**: Diversified product portfolio and emerging global leader.

Source: Barings, 31 Dec 2015. Please refer to Important Information.
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