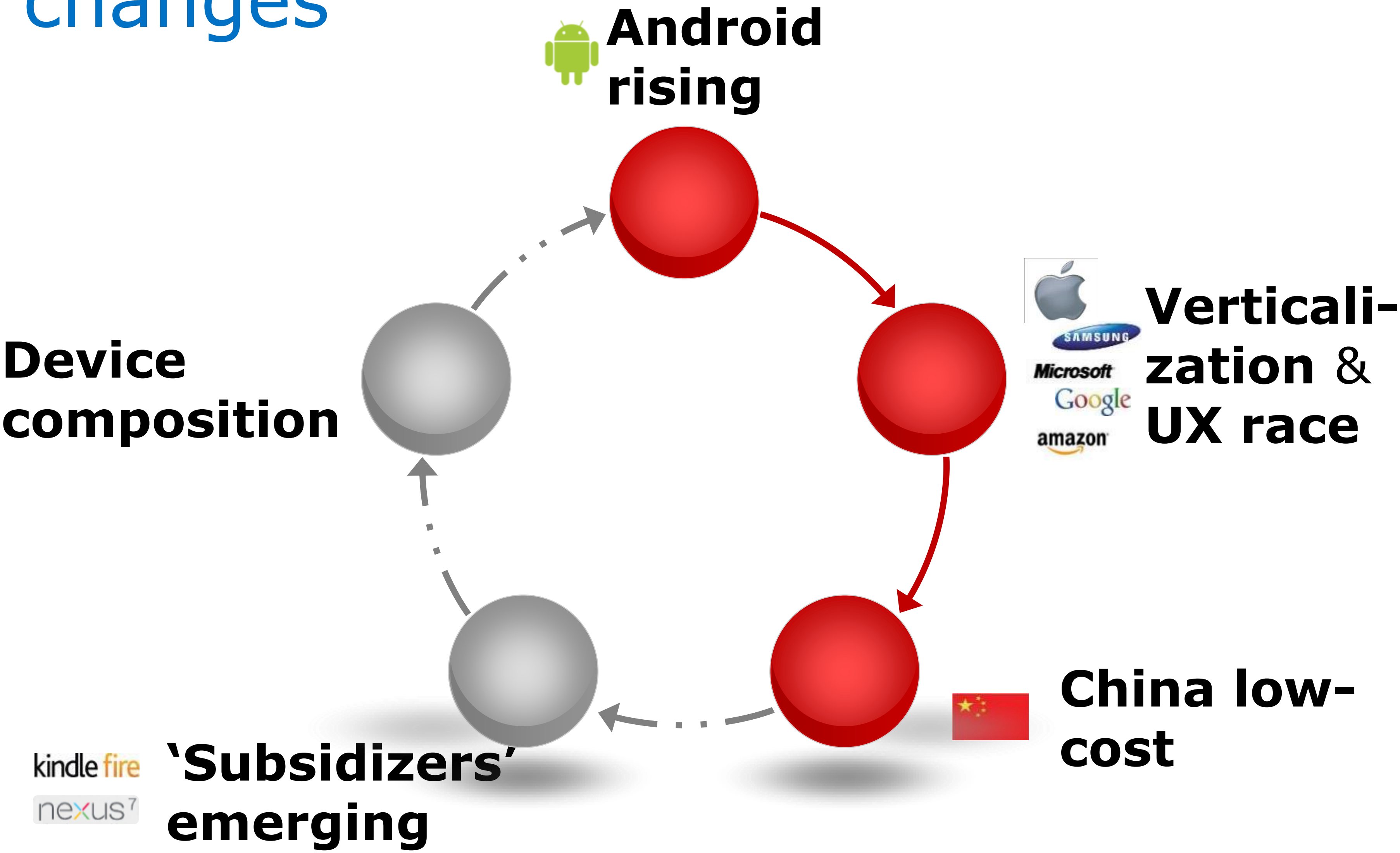
Mobility Ecosystem business models and ecosystem in change

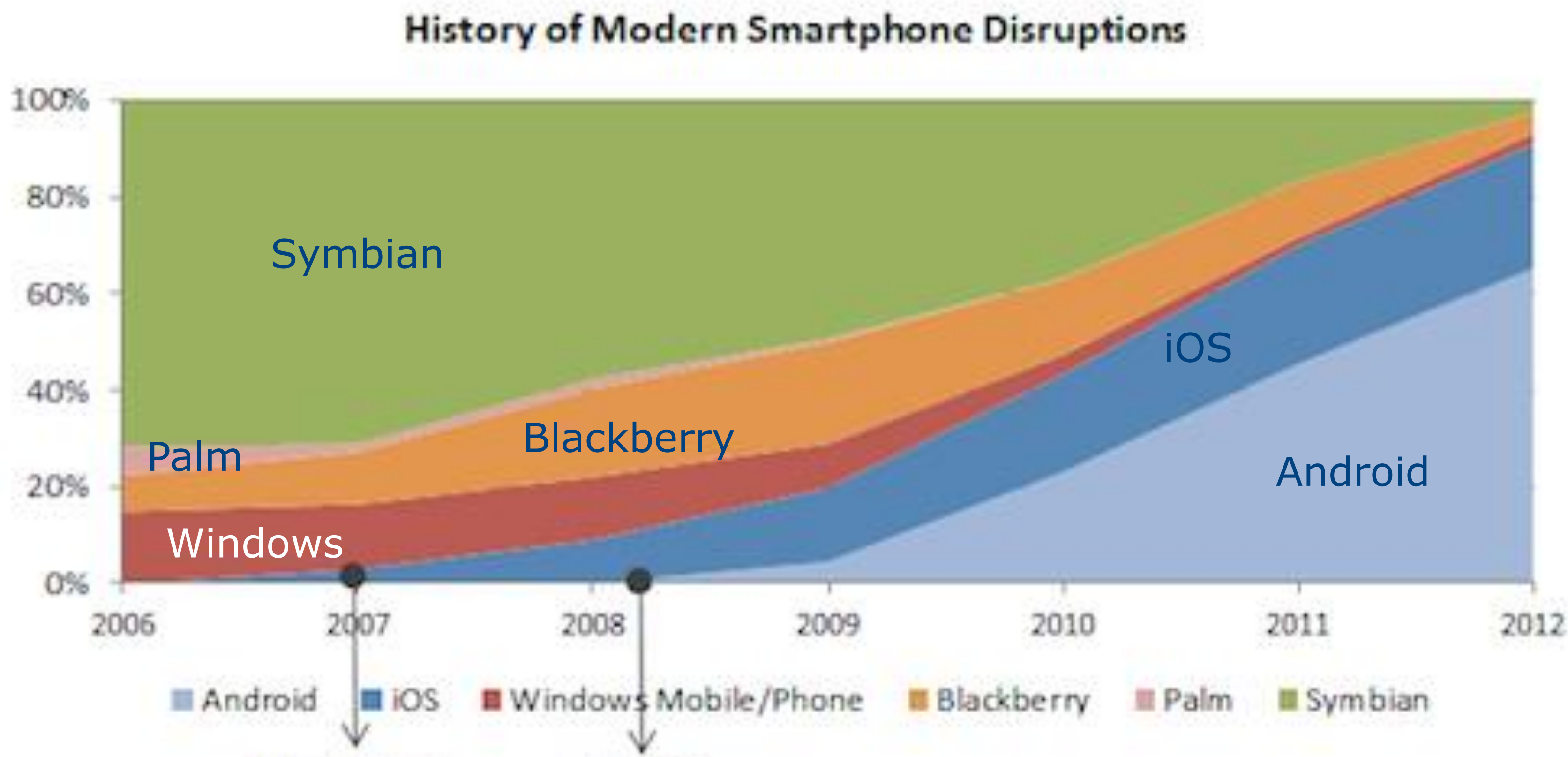
Oliver Buschmann

October 22, 2013

Key ecosystem & business model changes



History of Smartphone ecosystem disruption

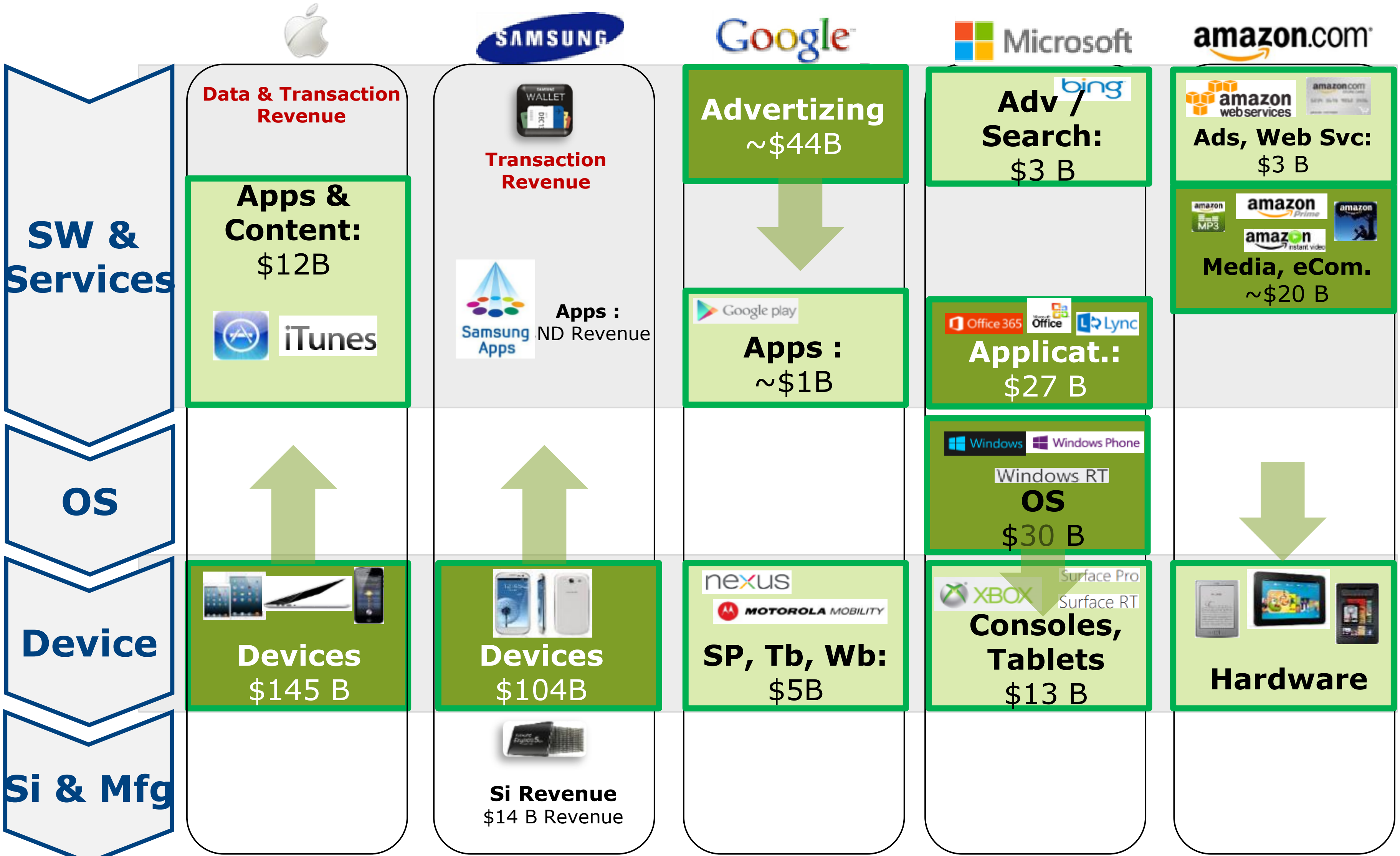


Disruption Wave 1 **Integration**

Disruption Wave 2 **Low Cost Modular**

Disruption Wave 3?

Ecosytems verticalize with different Business Monetization



Legend: Observed/Company reported | Supposition | Core monetization area

The race for best User Experience

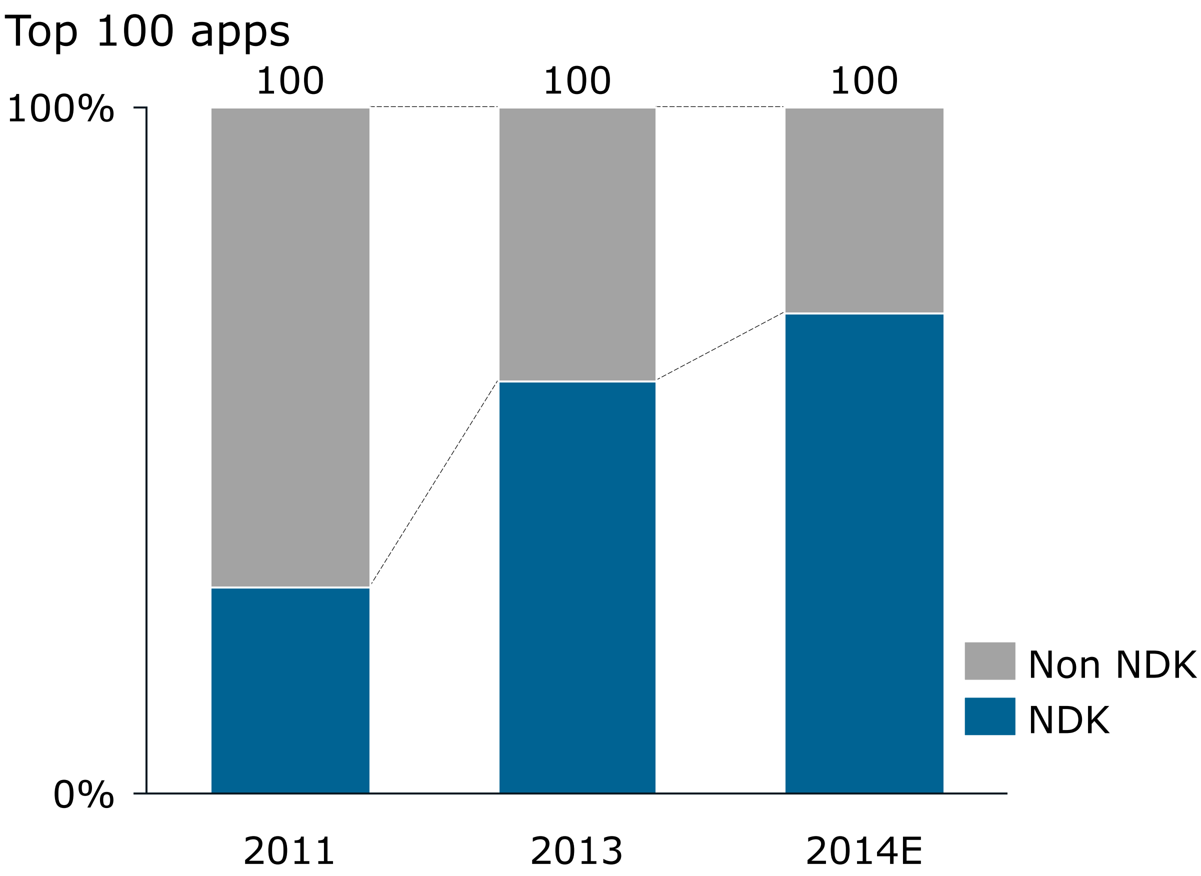
2013 UX Ecosystem Landscape

Leadership capable today
Solution in market, not currently leadership
No solution in market or limited traction/capability

	Capability	Intel	Apple	Google	Microsoft	Samsung	Qualcomm
Personal Assistant	**Personal Assistant**	Nuance Genie Intel PA	Siri Notifications	Google Now Wallet	N/A – Bing	S-Voice	Platform focus
	Speech / NLU	Nuance HW accel, LPAL	Siri / Nuance	Google Voice	Bing Tell Me	S-Voice / Nuance	HW accel LPAL
	Location	Intel LBS, Chipset	Maps	Maps	Maps	CSR / Android	iZat
	Context	CSP, Sensor Hub	Siri	Google Now	Context	Health sensors	Gimbal
Data Bank	**Identity**	FedID, IPT	AppleID	Google+ ID	Microsoft ID	Samsung ID, KNOX	SecureMSM
	Personal Data	DataBank	iTunes, iCloud Passbook	Dashboard, Drive Play	SkyDrive, Bing Xbox Gold	AllShare, Content	Gimbal
	Advertising / Personalization	Personalized Services	iAd iTunes	AdSense/Words Play	Bing	Ads	Gimbal
No Passwords	**Identity**	FedID, IPT	AppleID	Google/Google + ID	Microsoft ID	Samsung ID, KNOX BYOD	SecureMSM
	Password Vault	SafeKey YAP	AppleID iCloud Keychain	Chrome OpenID	Bing Windows Vault	None	SecureMSM
	Biometrics	YAP	FP + OTP & facial expected	Android Facial	Picture, SmartCard OTP, AD	Facial	SecureMSM, OTP, NFC
No Wires	**Multi-screen**	WiDi CCF	AirPlay AirDrop	Miracast, Dial, Chromecast	Smartglass Miracast	AllShare	AllJoyn, Skifta Miracast
	Wireless Charging	A4WP	Expected Proprietary	PMA	None	A4WP, Qi, PMA	A4WP
	Wireless Docking	Wireless Dock WiGig	Thunderbold				PC: (Wilocity) Mobile: ~’15

NDK app share doubled since 2011

NDK APPS ARE GAINING SHARE



KEY DRIVERS

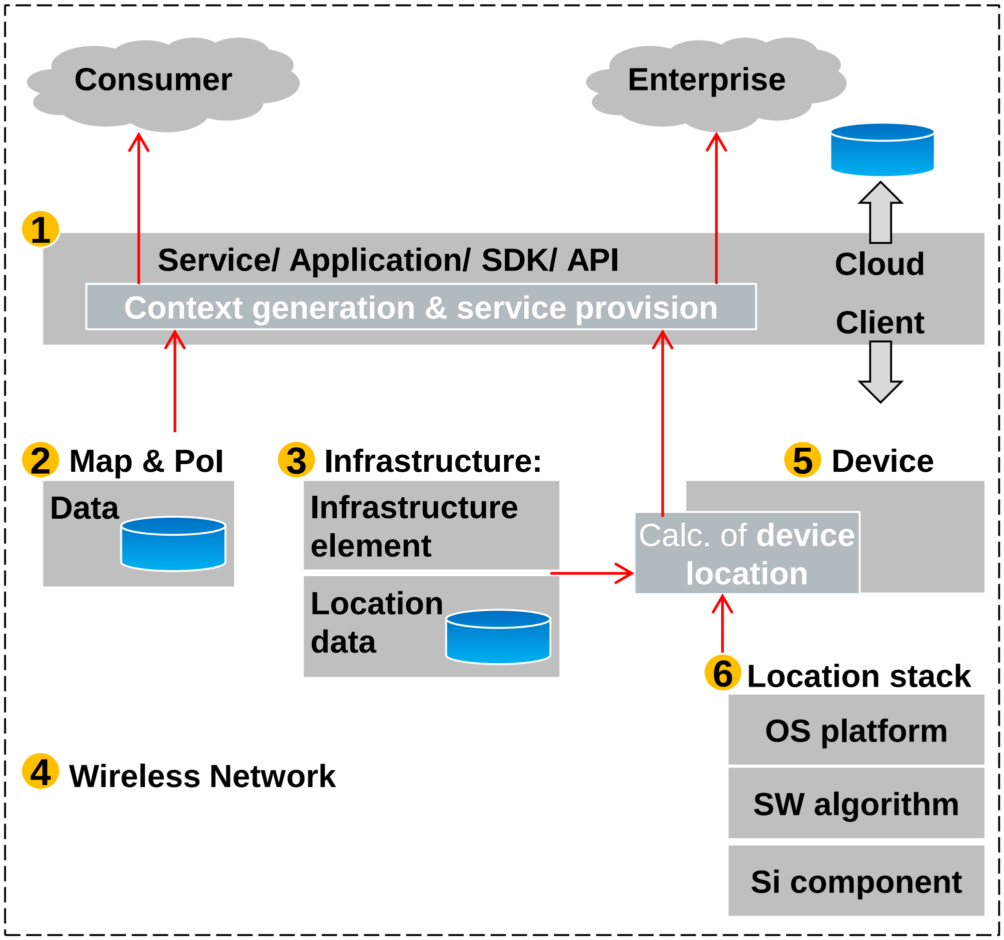
- Increasing **need for performance** e.g. gaming
- Keep up with (vertically optimized) iOS
- Availability of **3rd party libraries and engines** to use with NDK

Source: AppAnnie; LitSearch

Multiple ecosystem ingredients required – Example location based services for indoor

Indoor location value chain:

Exemplary



Ingredient | Value contribution

1 Services, Apps, SDK, API	Ecosystem players
• Provision of apps, services • Creation of **context**	OSVs, App developers

2 Maps & PoI	Ecosystem players
Map & Point of Interest data	OSVs, others

3 Infrastructure	Ecosystem players
Infrastructure element (e.g. WiFi AP, Cellular BTS)	Infrastructure vendors, others
Infrastructure location data	OSVs, infra, others

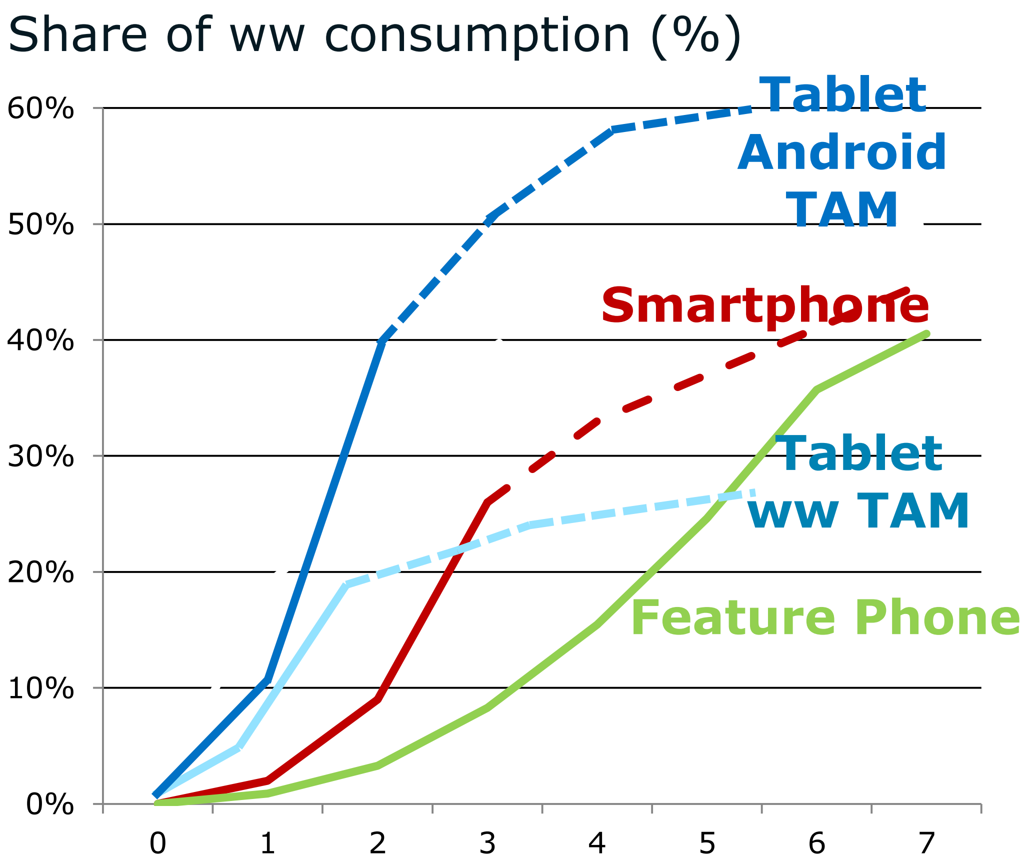
4 Wireless network	Ecosystem players
Mobile network connection	Operators

5 Devices	Ecosystem players
•Integration of all **HW &SW** •Cal. of **device location**	Device OEMs

6 Location stack	Ecosystem players
OS platform	OSV
SW algorithms for location	Si vendors, OSV, others
Si components	Si vendors

China Tech Ecosystem Explosion

ACCELERATED RAMP

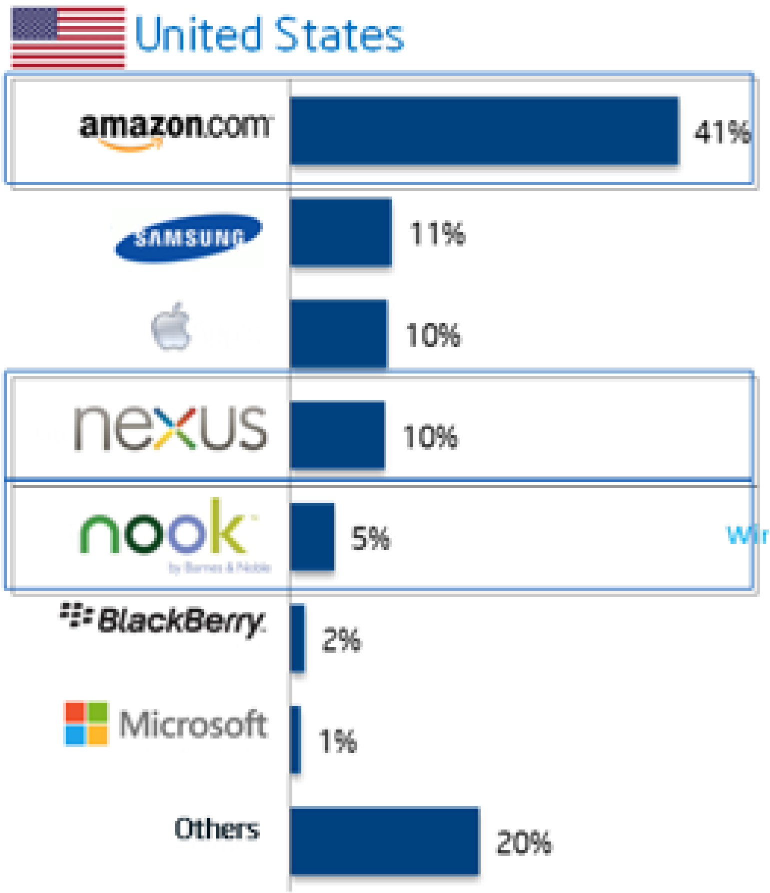


CTE ENABLER & INHIBITORS

- ~30% lower prices
- Local supply chain
- Domestic test bed & int'l distribution channel esp. Emerging markets
- Local engineering pool
- Turnkey solutions enable short TTM

- Not prioritized for WindowsRT
- Limited sophisticated R&D and innovation power
- Limited IP assets (except Huawei, ZTE)
- No ARM license fee for leading edge

Content service providers Emerging



Content Service Providers with >50% share of tables <250$

Source: eMarketeer, IDC, Intel IMR

Key economic driver: Own Devices Can Generate 2-5x Incremental Revenue

Avg. % purchased through Amazon

Incremental value via Kindle Fire vs. OTT app

- **~2-5x** transactional service revenue share
- **~3X** 'Prime' subscription adoption rate
- **>$151 more** revenue per device within first year

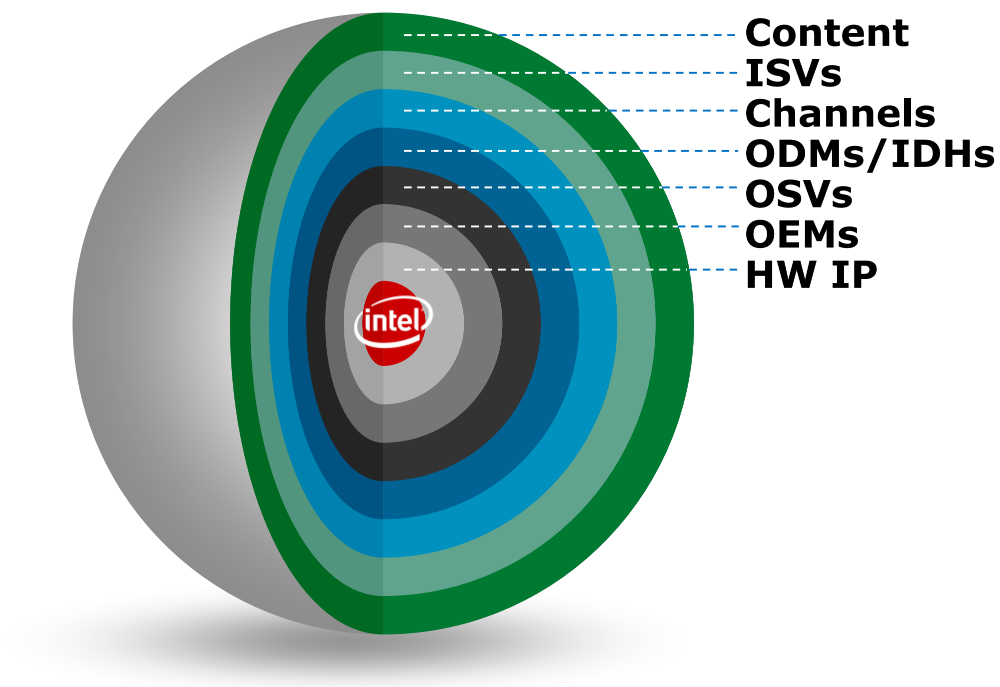
Source: Intel Survey results based on 500 screened respondents

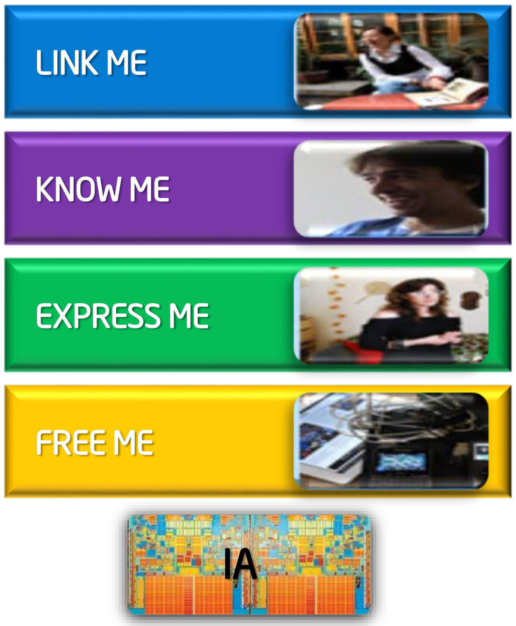
From single devices to device ensembles ecosystem

Vision

"Enable mobile ecosystem on Intel Platforms …

…and provide better experiences"





Mobile and Communications Group

Abstract

The mobile ecosystem has gone through substantial disruptions in the past few years and continues to evolve rapidly.

Starting from Symbian, going to iOS and the fast ramp of Android has created 3 large ecosystems around Google/Android, Microsoft/Windows and Apple/iOS. Triggered by the vast success of the vertical model of combined HW and SW, most players try to verticalize, e.g. Microsoft offering surface or Google buying Motorola and offering Nexus or Google Glass.

Especially with the rise of low-end tablets, we are part of the next disruption, triggered by China Tech players, which create a new ecosystem around low-end products and eventually disrupt also higher tier market segments.

Looking into the future, we will see growth in a new class of business models, where phone, tablet and wearable hardware is no longer seen as a source of profits, but is treated as a distribution channel for digital products and services. Amazon has started a new class of service business model, which is likely to create the 4th large ecosystem.

In this talk, I will walk through those key ecosystem changes and new emerging business models and their implications for the industry and Intel.

Key trends: China CTE, Content subsidies, Android, Verticalization, much more complex interaction (function integration); Across OSs (Dual-OS, HTML5, Productivity on Android, …); system/ecosystem thinking (e.g. virtual shopping)

Add Sources: IMR research, Andy, David Crawford,