

Market Perspective & Strategy

SAMSUNG
ANALYST DAY 2013



Kinam Kim, Ph.D
CEO, Samsung Display
US NAE Foreign Associate, IEEE Fellow



SAMSUNG
ELECTRONICS



DISCLAIMER

The materials in this report include forward-looking statements which can generally be identified by phrases such as Samsung Electronics (SEC) or its management "believes," "expects," "anticipates," "foresees," "forecasts," "estimates" or other words or phrases of similar implications. Similarly, such statements that describe the company's business strategy, outlook, objectives, plans, intentions or goals are also forward-looking statements. All such statements are subject to certain risks and uncertainties that could cause actual results to differ materially from those in the presentation files above.

For us, particular uncertainties which could adversely or positively affect our future results include:

- The behavior of financial markets including fluctuations in exchange rates, interest rates and commodity prices
- Strategic actions including dispositions and acquisitions
- Unanticipated dramatic developments in our major businesses including CE (Consumer Electronics), IM (IT & Mobile communications), DS (Device Solutions)
- Numerous other matters at the national and international levels which could affect our future results

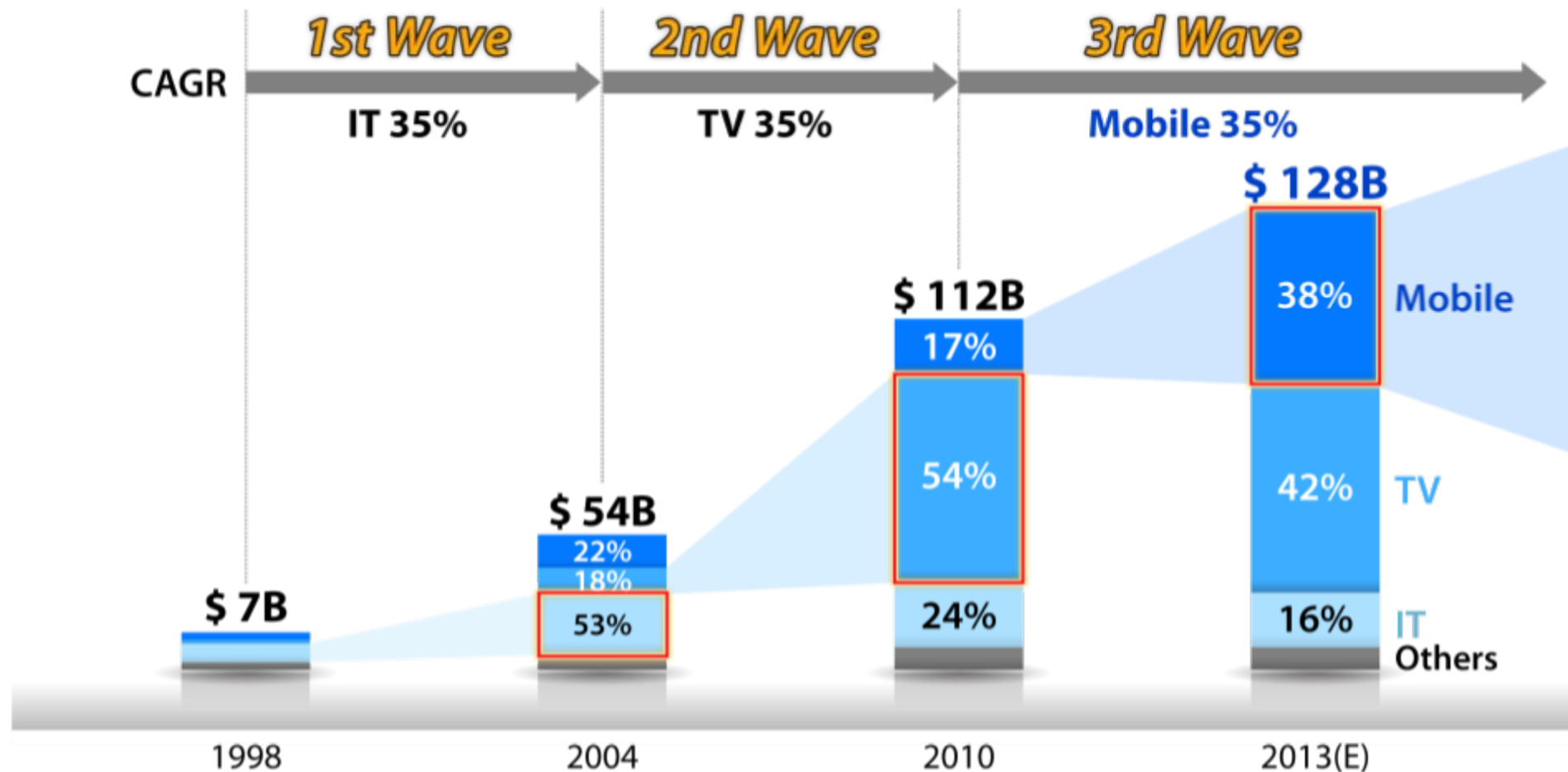
These uncertainties may cause our actual results to be materially different from those expressed in this report.

Contents

- I Business Overview**
- II Industry Outlook
- III SDC Core Competency
- IV SDC Strategy

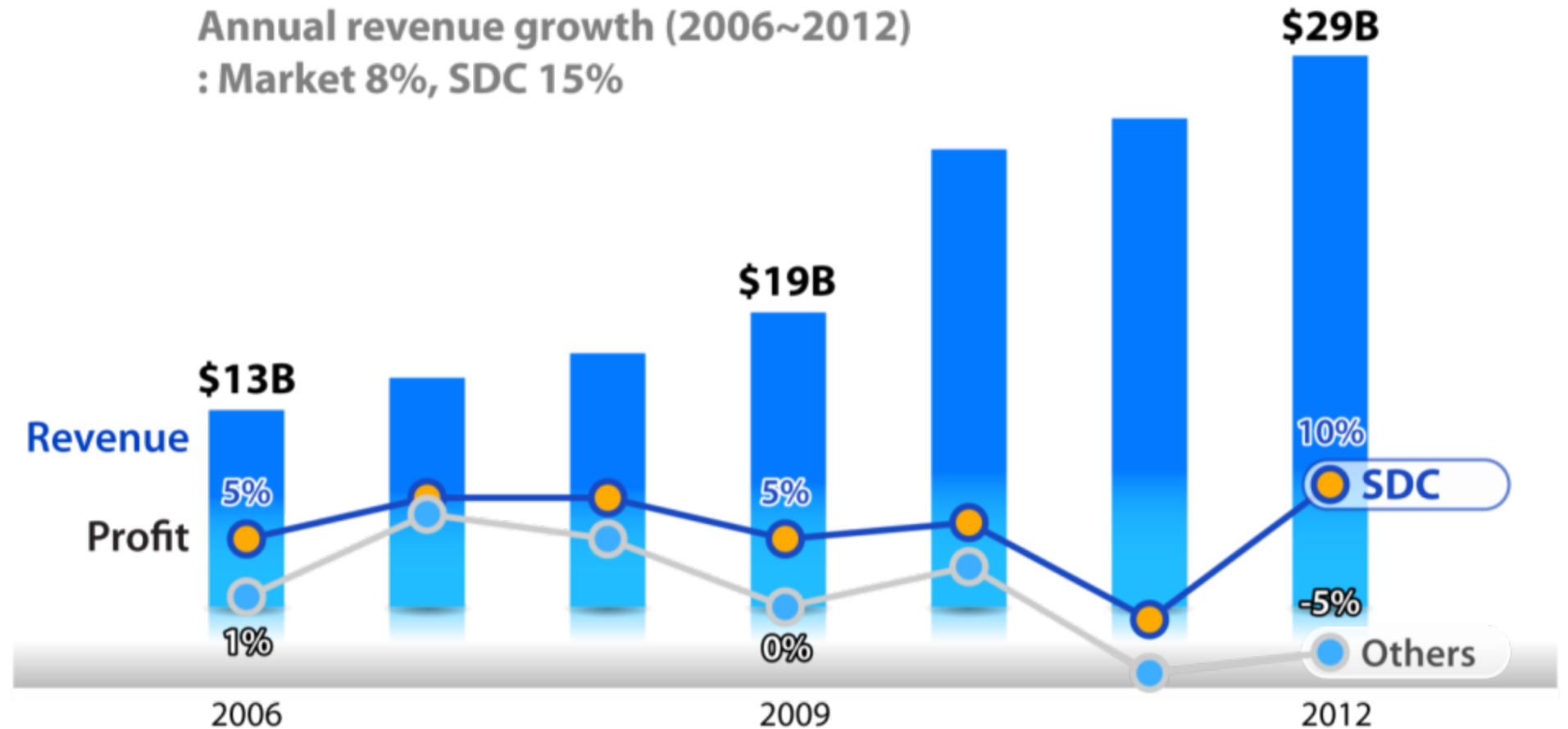
Display Market History

Growth Engine : IT → TV → Mobile



SDC Excellence : Revenue & Profit

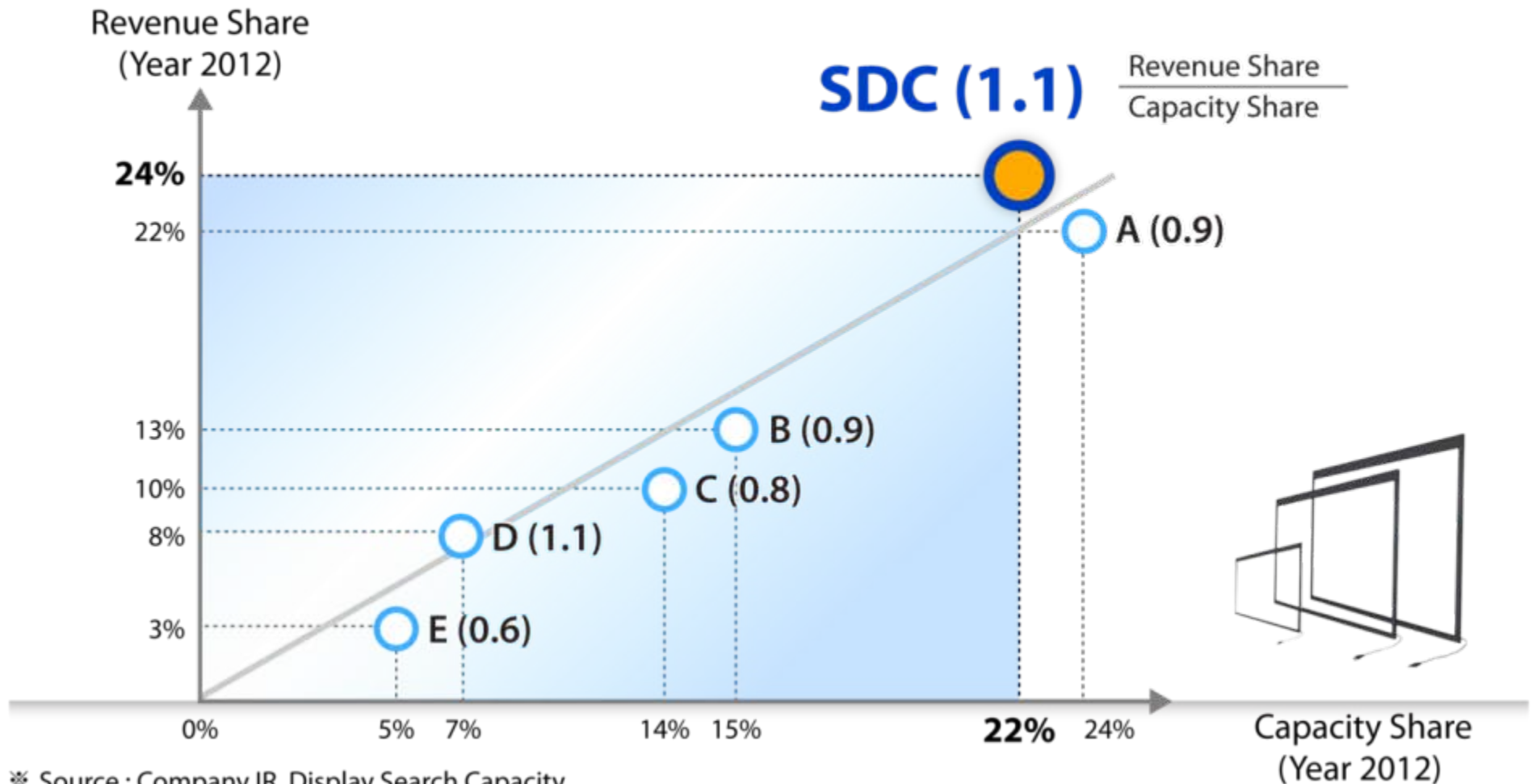
SDC has been continuously outperforming



※ Source : Company IR

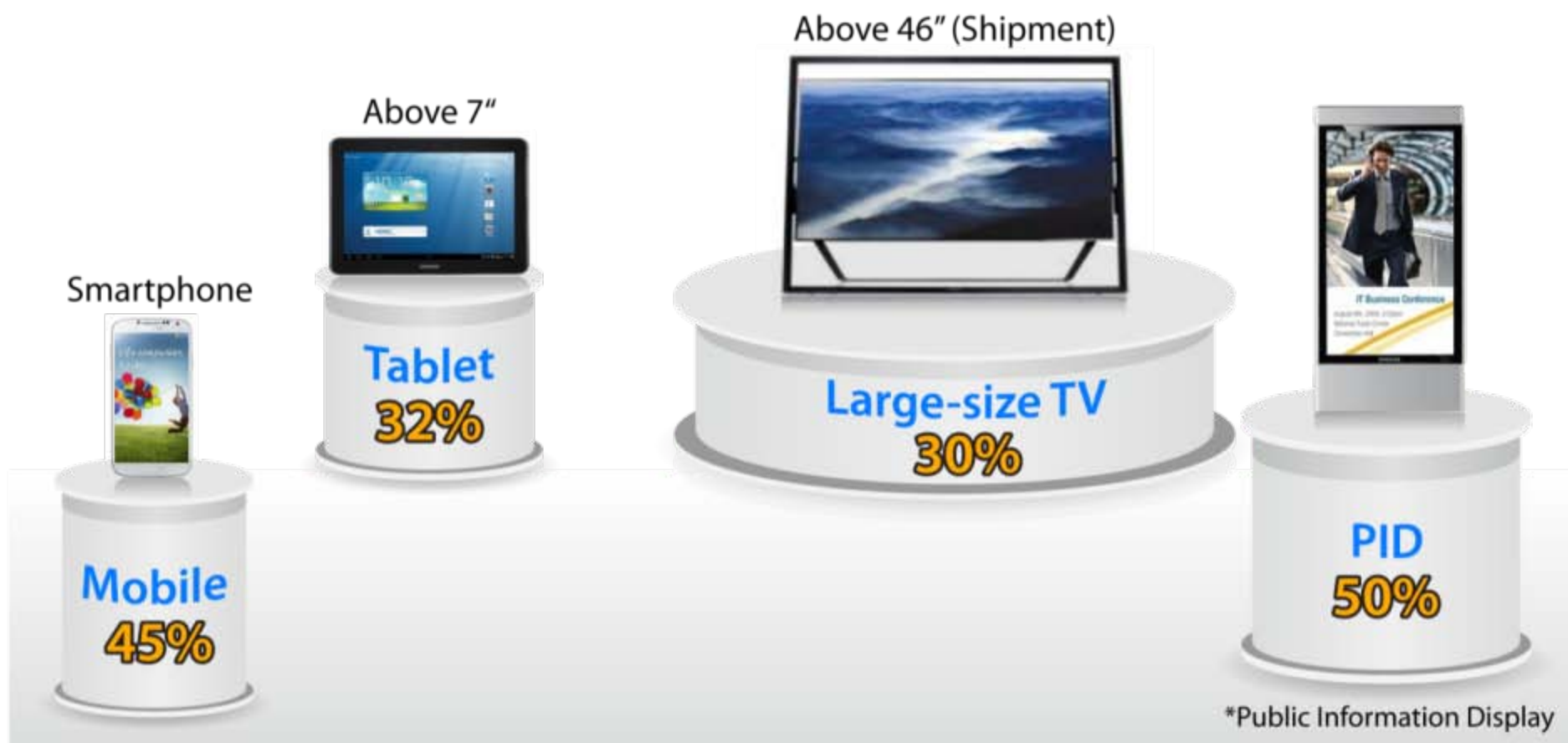
※ Avg. of top 4 players

SDC has been operating the capacity efficiently



SDC is the No.1 in 4 major applications

(2013.1H Revenue)



※ Source : Display Search

Ultra Large LCD TV

- FHD (65"/75" 240Hz)
- UHD (65"/85" 120Hz)

55" Curved AMOLED TV

- Smart Dual View (240Hz)
- Deep Black / High Contrast
- Vivid Color



Ultra Slim (Edge-LED TV)
Best Picture Quality (240Hz)

2009



Ultra Large (75" FHD)
Ultra Slim Bezel (3.95mm)

2011



Ultra Large
(65"/85" UHD)

2013



Curved AMOLED TV
(55" FHD)

※ FHD : 1920 X 1080, UHD : 3840 X 2160

Curved & Wearable

- World 1st FHD Flexible Display
: Display on plastic film



On Cell Touch
(OCTA)

High resolution
(FHD : 440ppi)

Flexible & Wearable

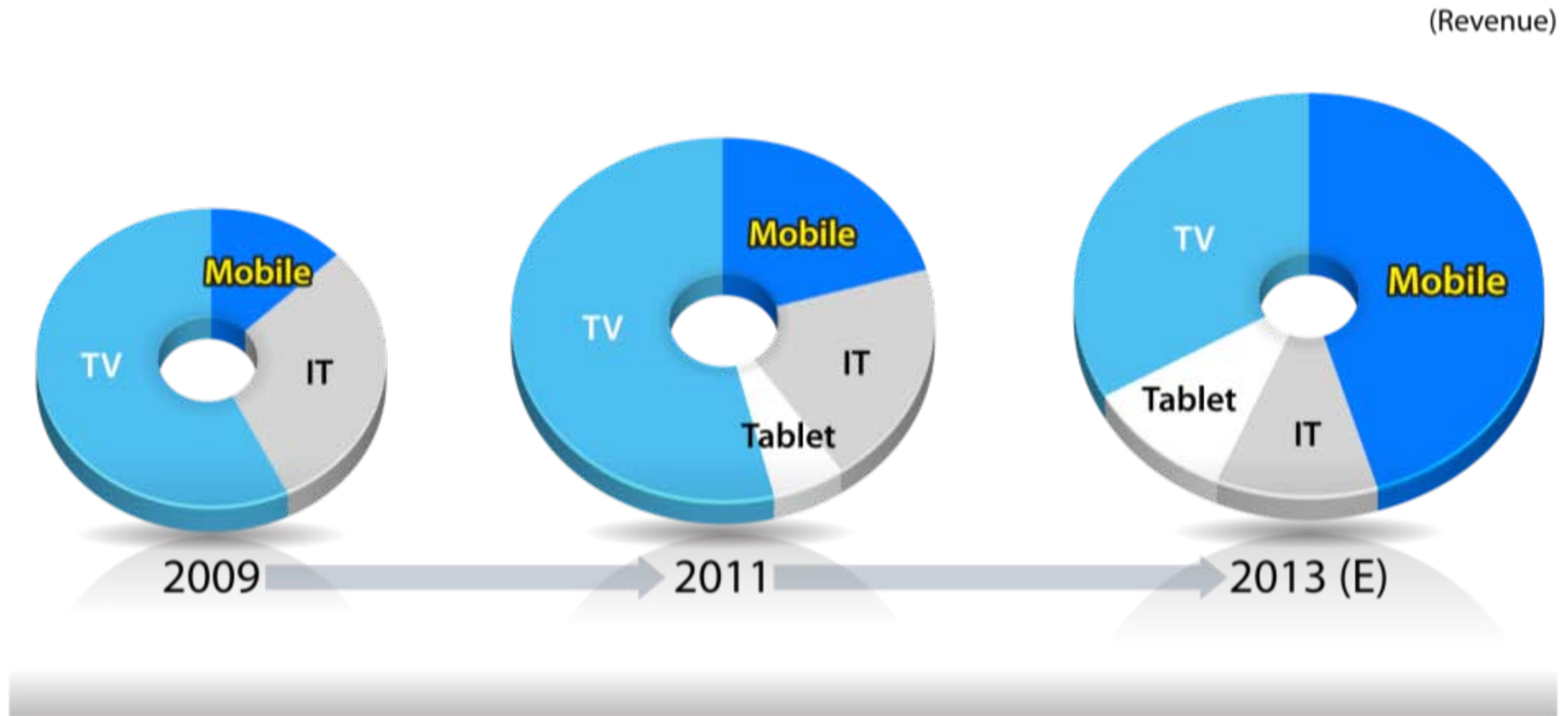
2010

2013.1H

2013. 2H

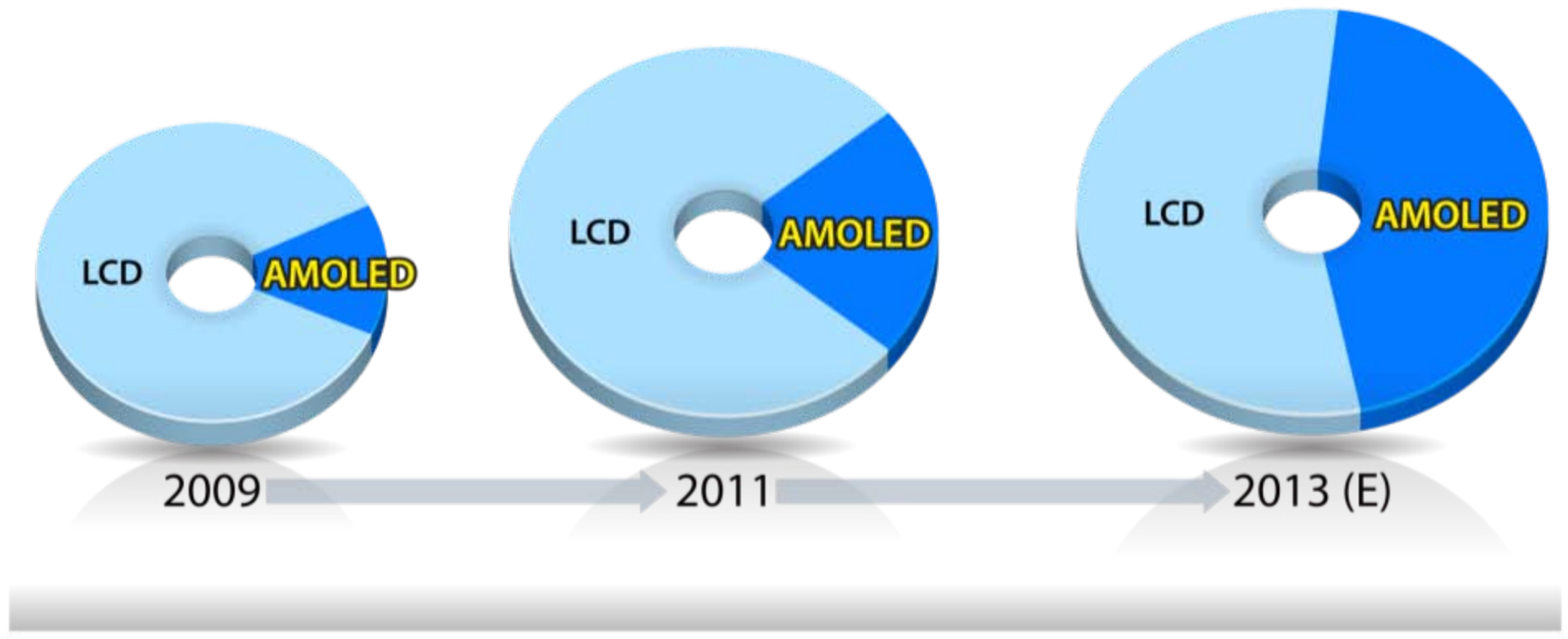
※ OCTA : On Cell Touch AMOLED

SDC evolves to well-balanced portfolio



AMOLED drives the growth of the company

(Revenue)



※ Source : SDC

Contents

- I Business Overview
- II Industry Outlook**
- III SDC Core Competency
- IV SDC Strategy

Hyper Connected

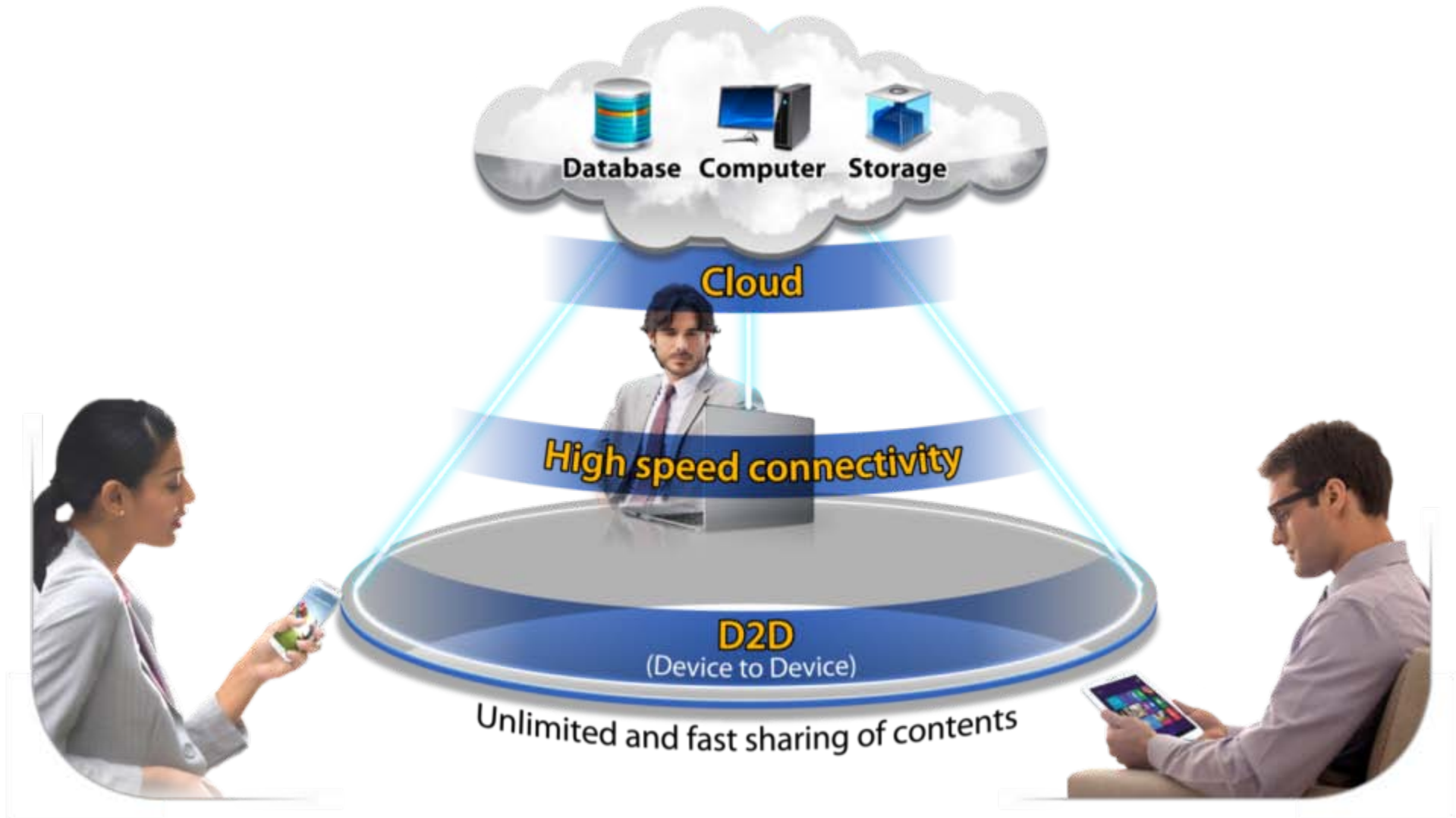
Everyone and everything are connected seamlessly



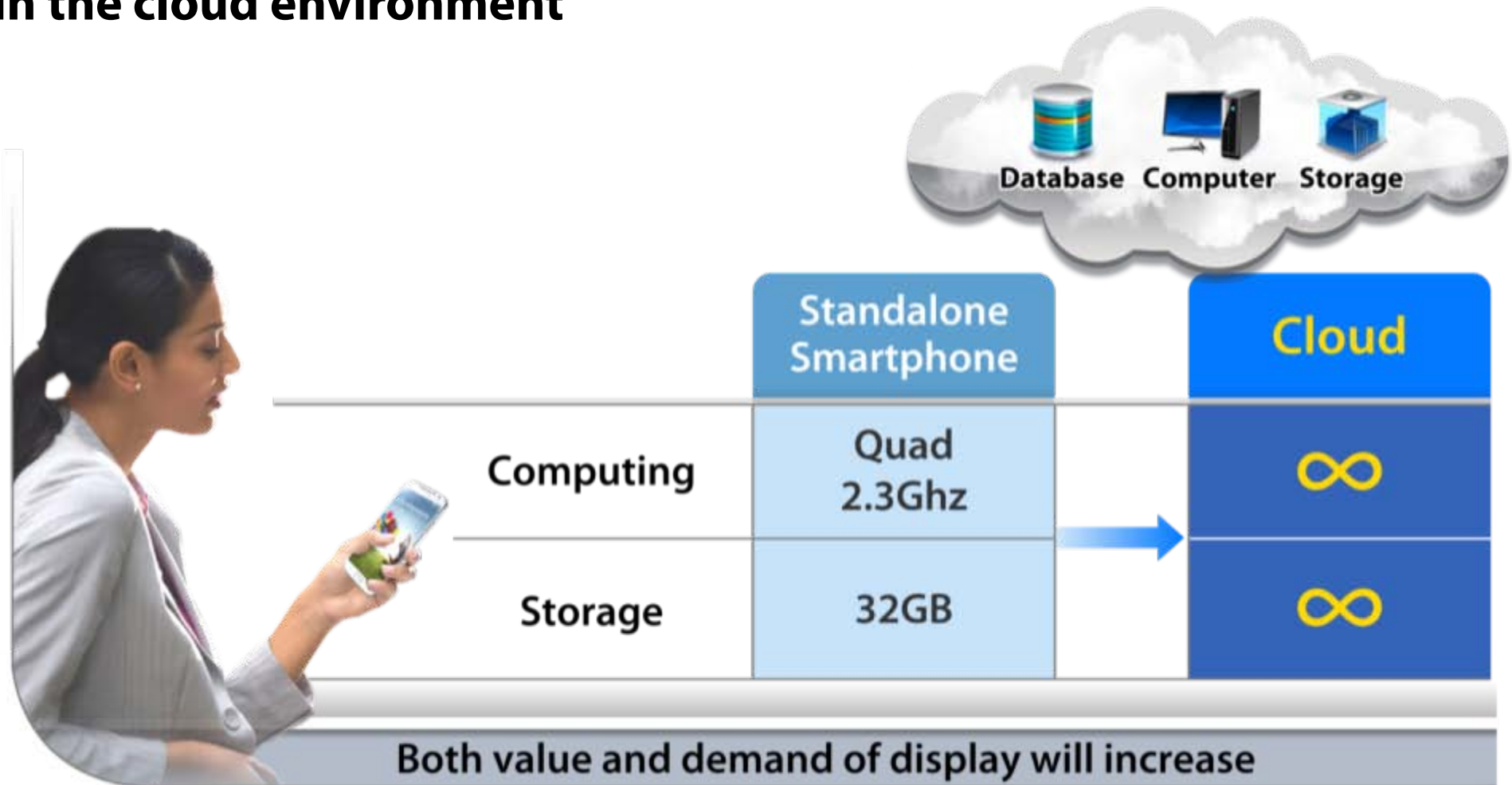
"HomoMoblins"

"HomoMobilians"

Key Elements of Hyper Connected World

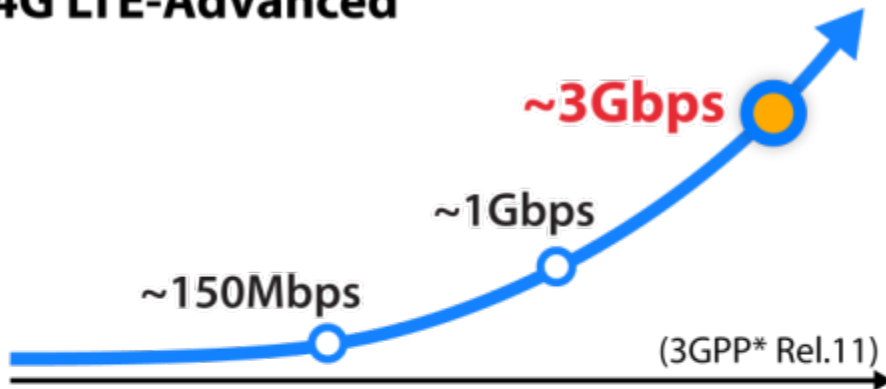


Display is the key component of smart devices in the cloud environment



Network revolution → Multimedia experience : High performance display

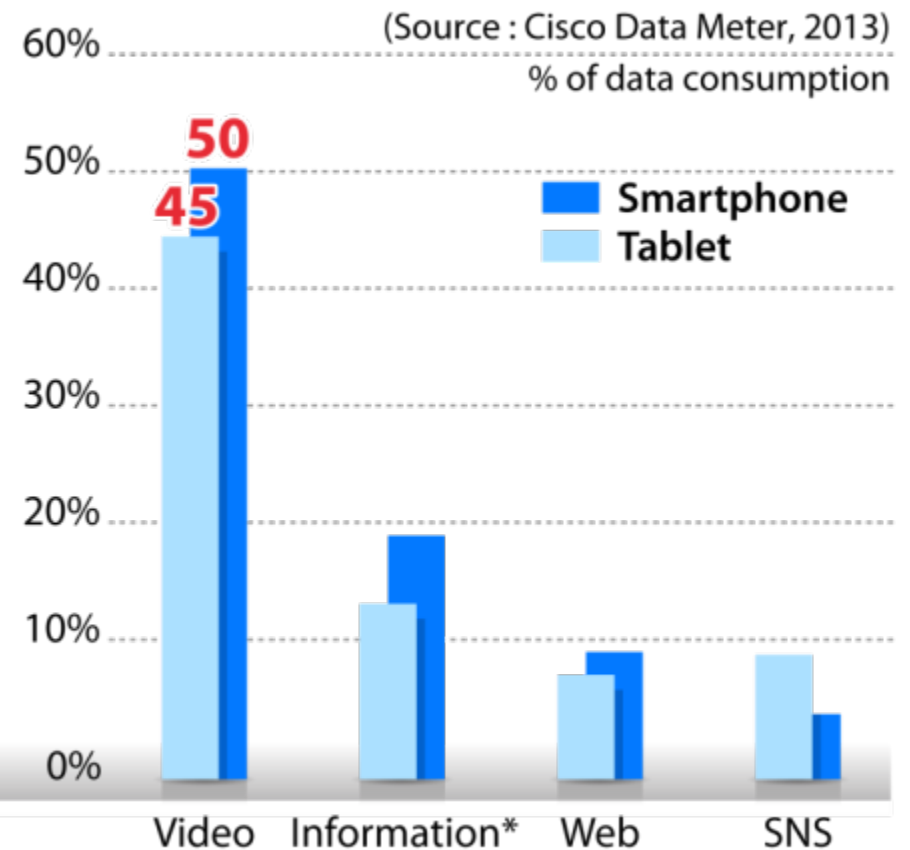
4G LTE-Advanced



	2013	2014	2015~
2 hours movie data	Full HD	WQHD	UHD
Download time	280sec	65sec	35sec

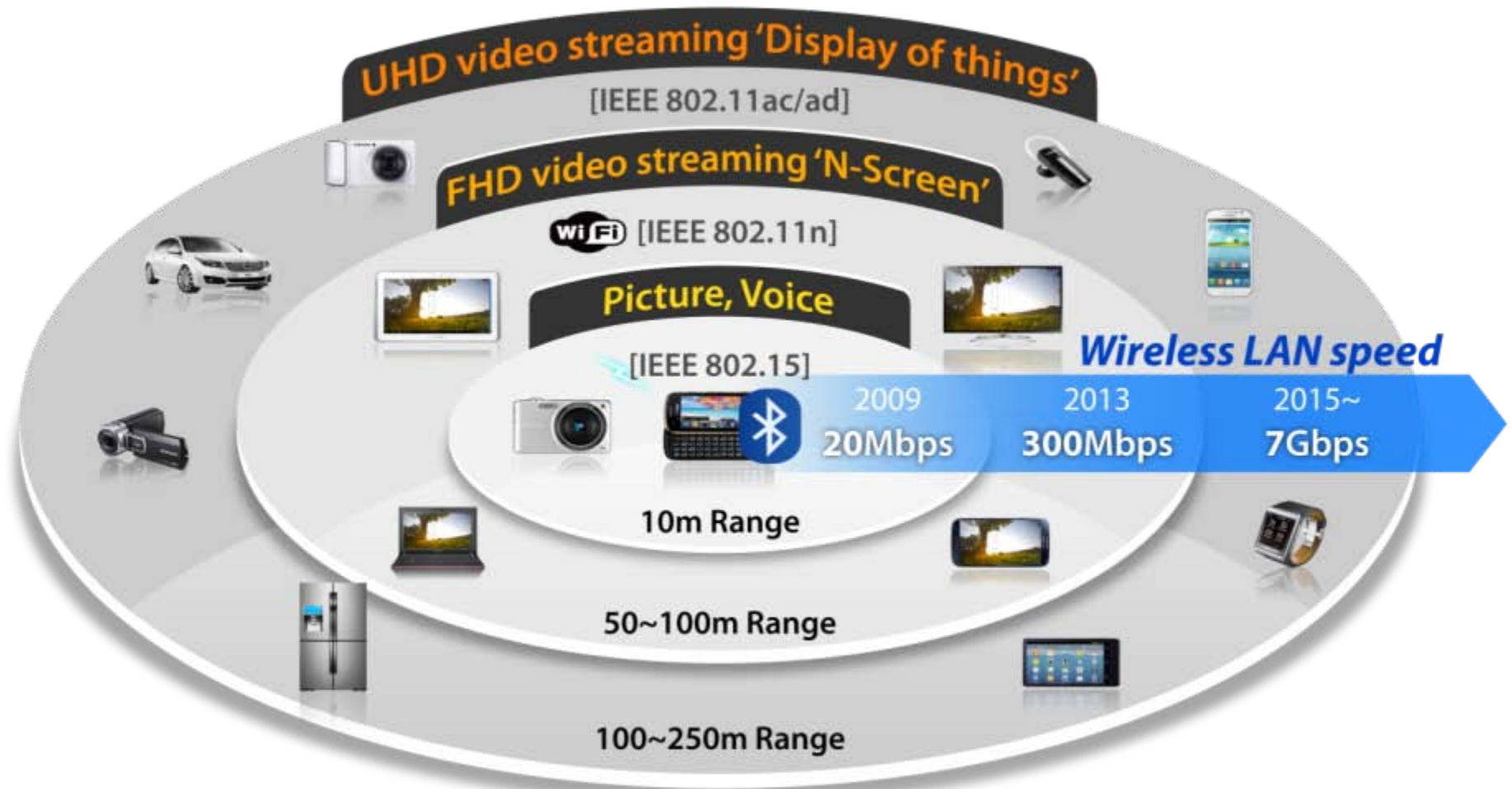
※ 3rd Generation Partnership Project

※ WQHD : 2560 X 1440

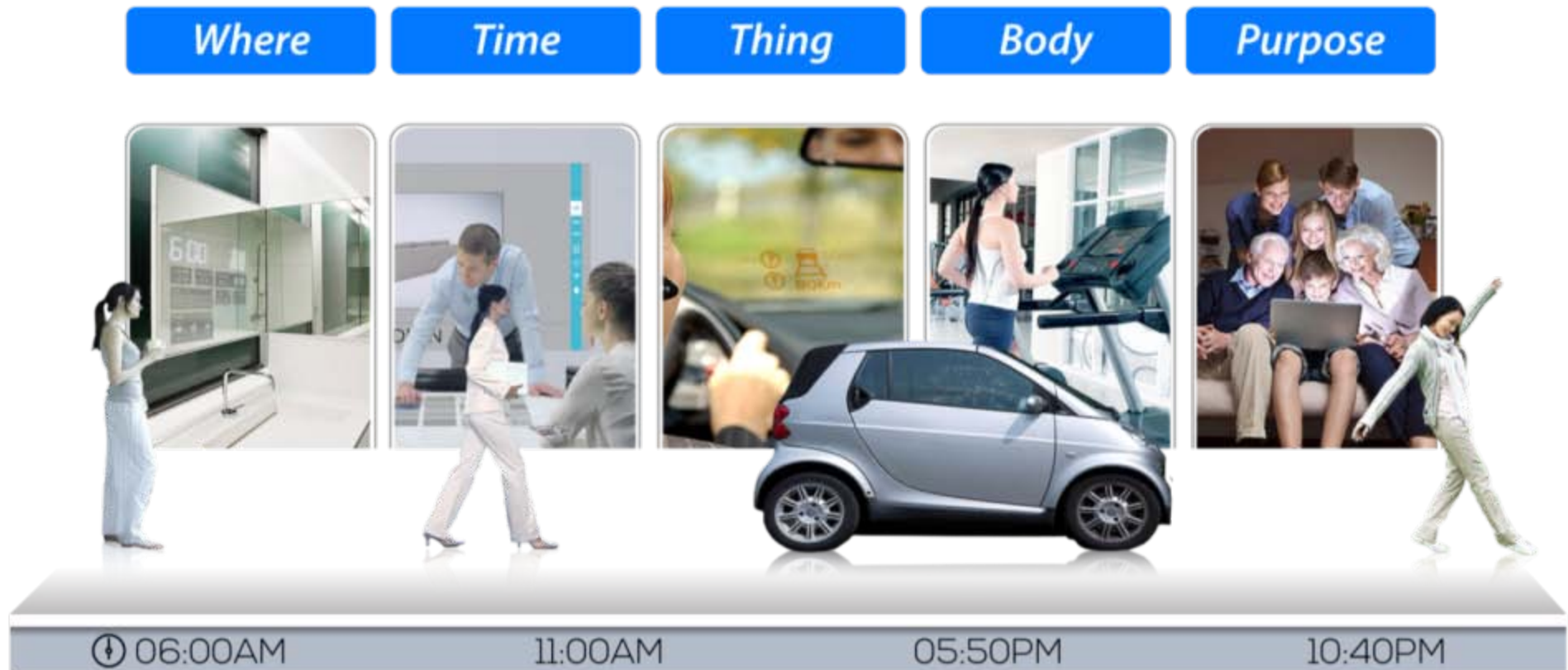


※ App. & Push Information

Trillion devices will be connected, display is the window



Display is the window for the world. "5 Every..."



One day with display

Display Centric World

Decorative wavy lines in shades of blue, green, and yellow sweep across the bottom right corner of the slide.

Contents

- I Business Overview
- II Industry Outlook
- III SDC Core Competency**
- IV SDC Strategy



Legacy

Distinguished track record in display and semiconductor

Advanced Technology

World largest AMOLED & Flexible IP portfolio
Technology readiness for Flexible AMOLED

Operational Capability

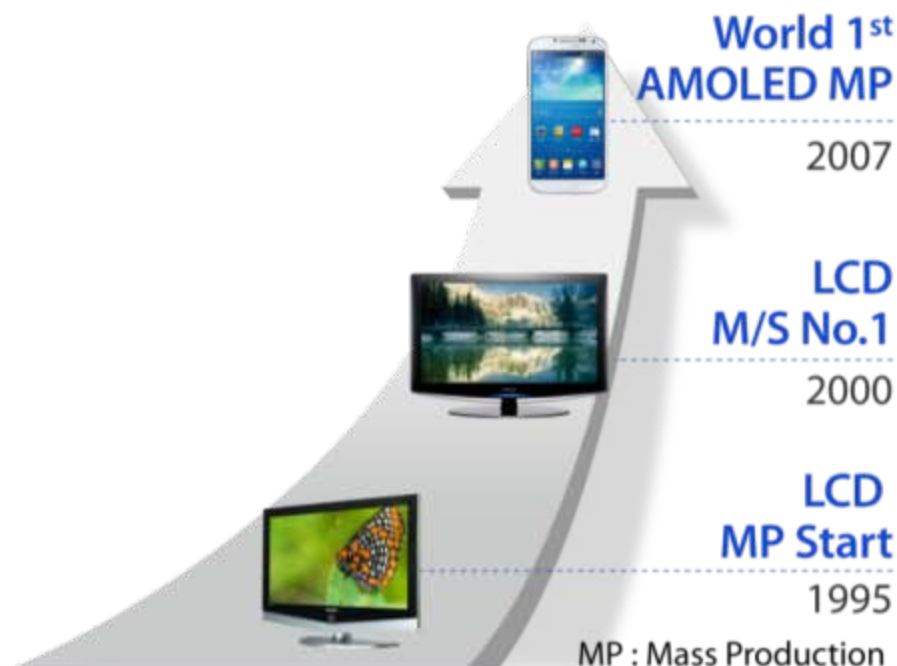
AMOLED, the 1st commercialization to 500M cumulative units produced

Eco-System Leadership

Vertical integration:
Samsung affiliates & other partners

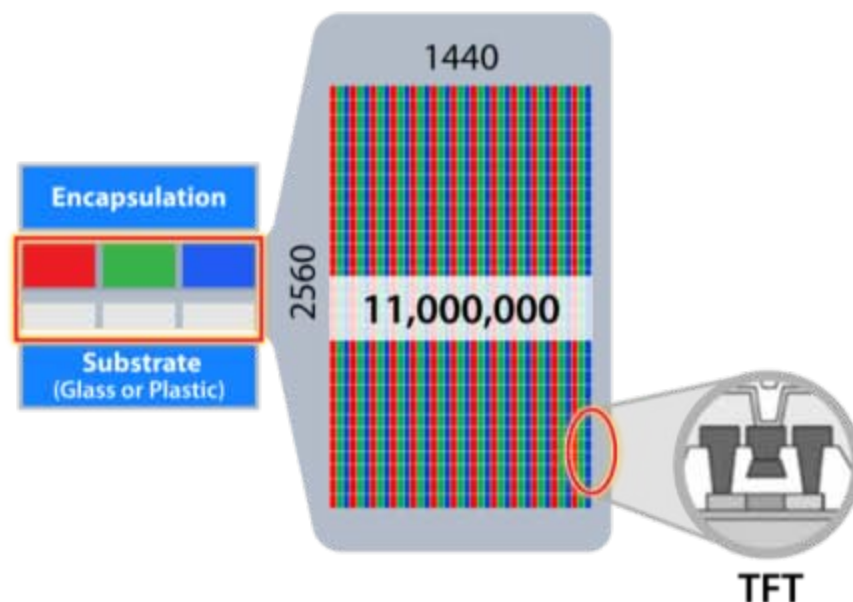
Distinguished track record in display and semiconductor

World Best Display

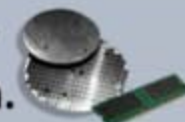


No1. in Market share since 2000

World Best High Density Technology



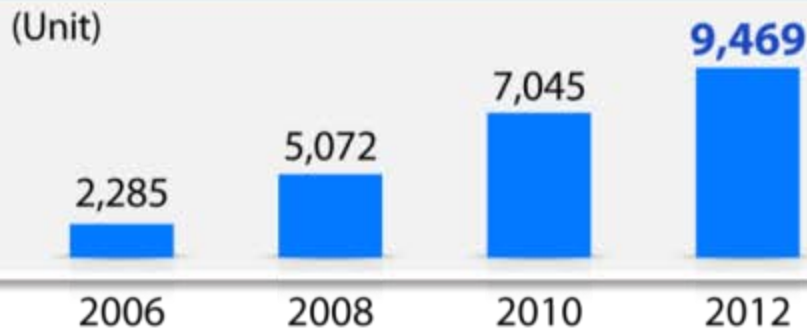
No.1 Fine Patterning Technology
Synergy with Semiconductor Tech.



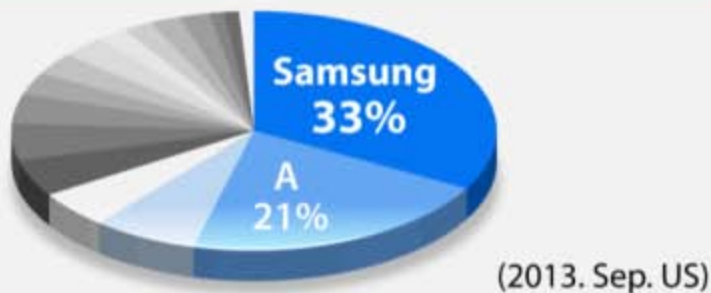
World largest AMOLED & Flexible IP portfolio

Strong IP* Portfolio

SDC AMOLED Patents



Flexible related Patents



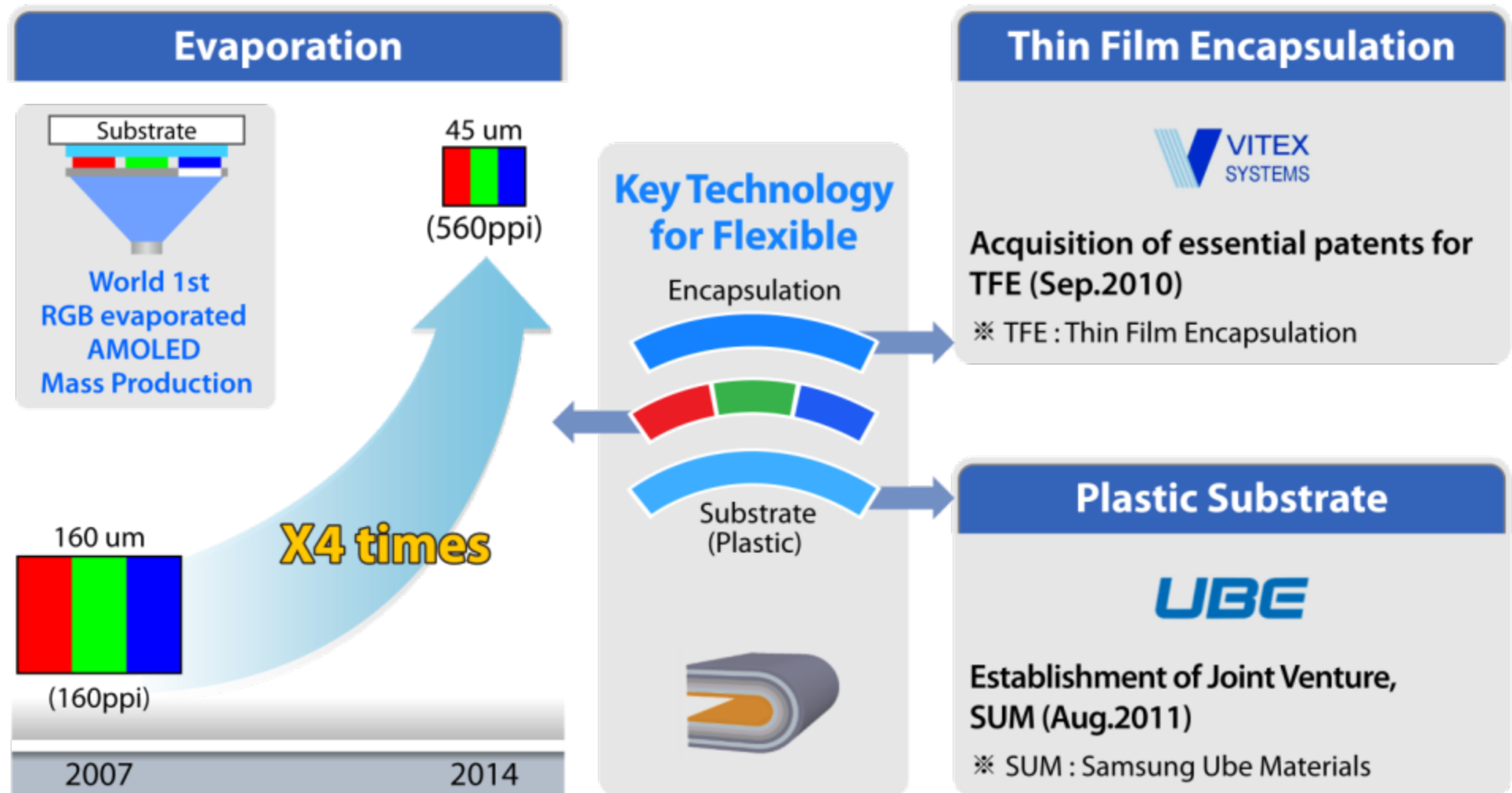
※ IP : Intellectual Property

Dedicated Line for New Technology



Able to validate manufacturability
for 'Design for Manufacturing'

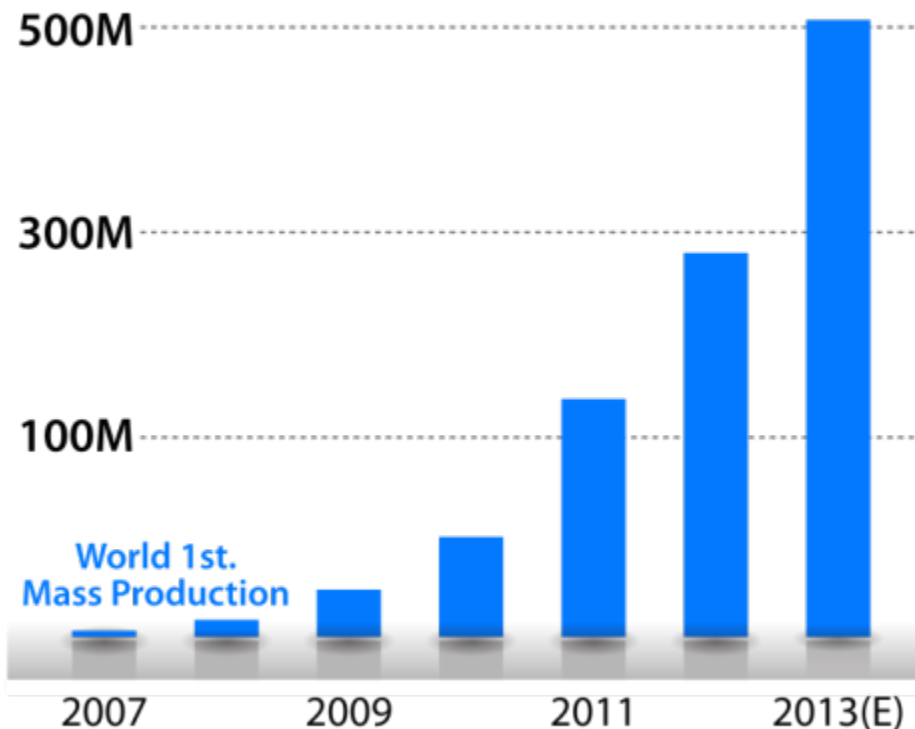
Technology readiness for flexible AMOLED



※ High ppi (pixel per inch) = High resolution

SDC has proven capability to bring the new technology to the large scale mass production

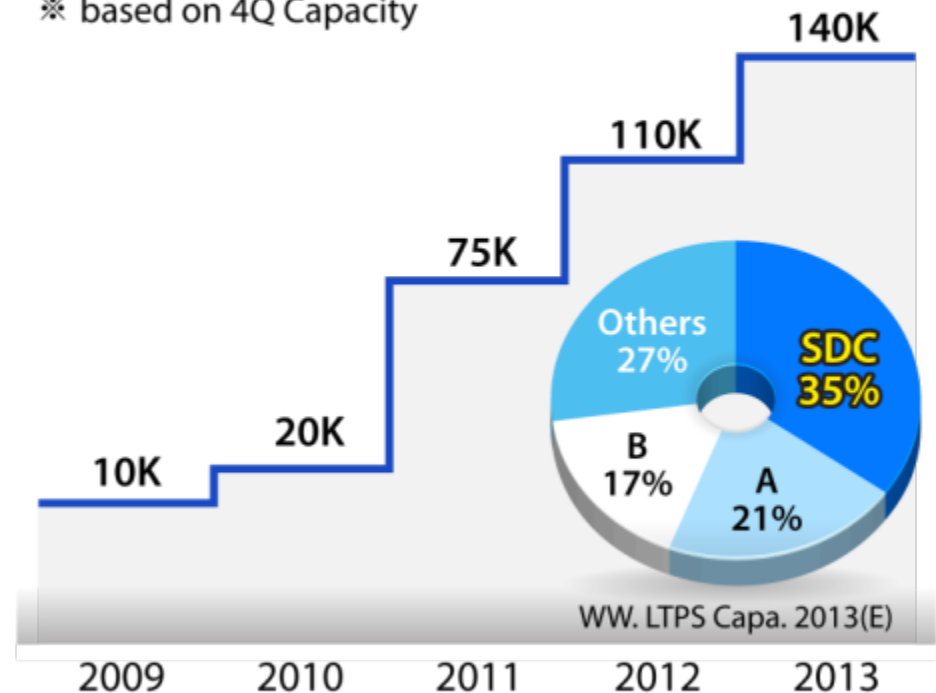
SDC AMOLED Cumulative Production



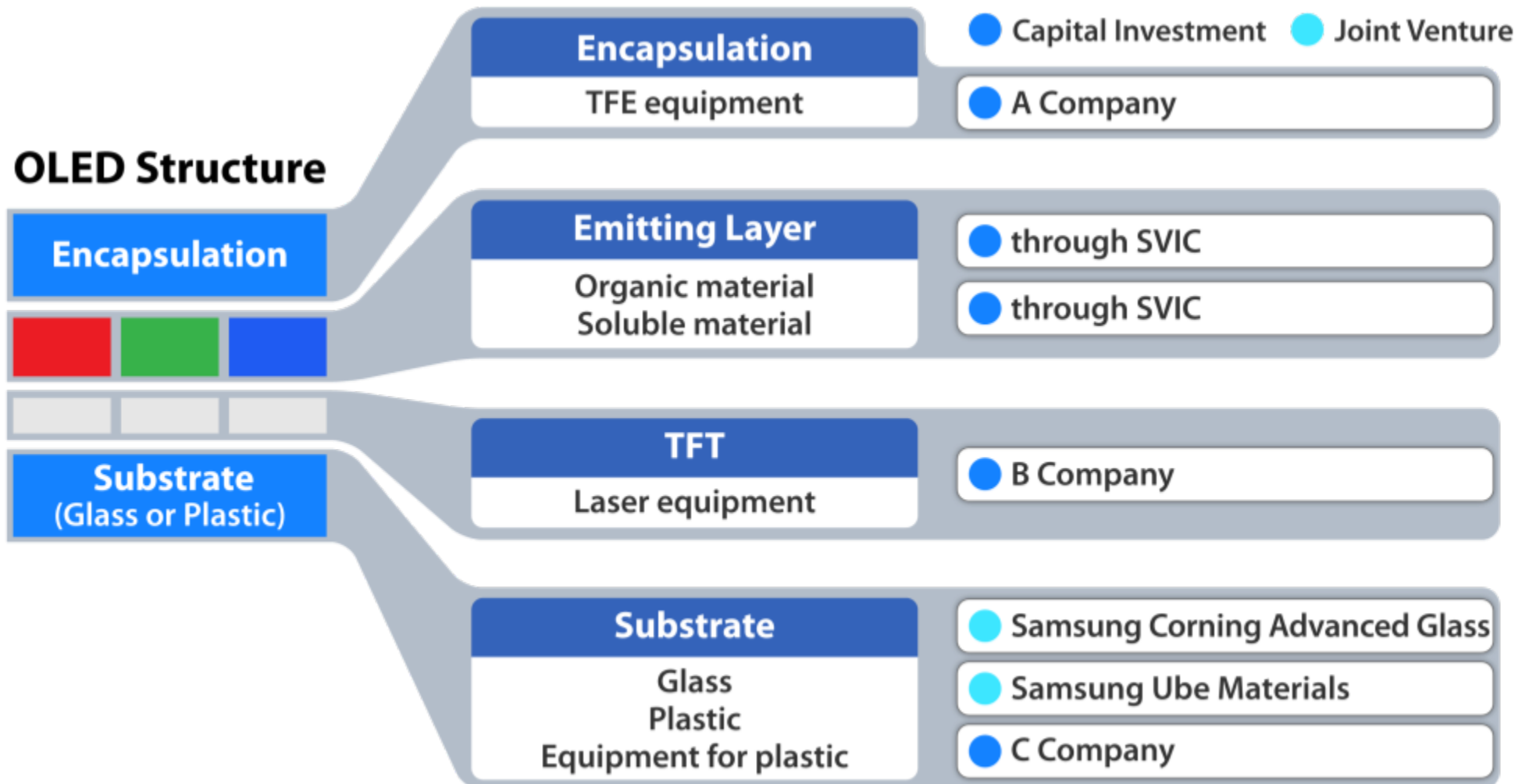
SDC AMOLED Capacity Ramp-Up

[K sheets/Month, 5.5G Equivalent]
※ based on 4Q Capacity

35%(No.1)



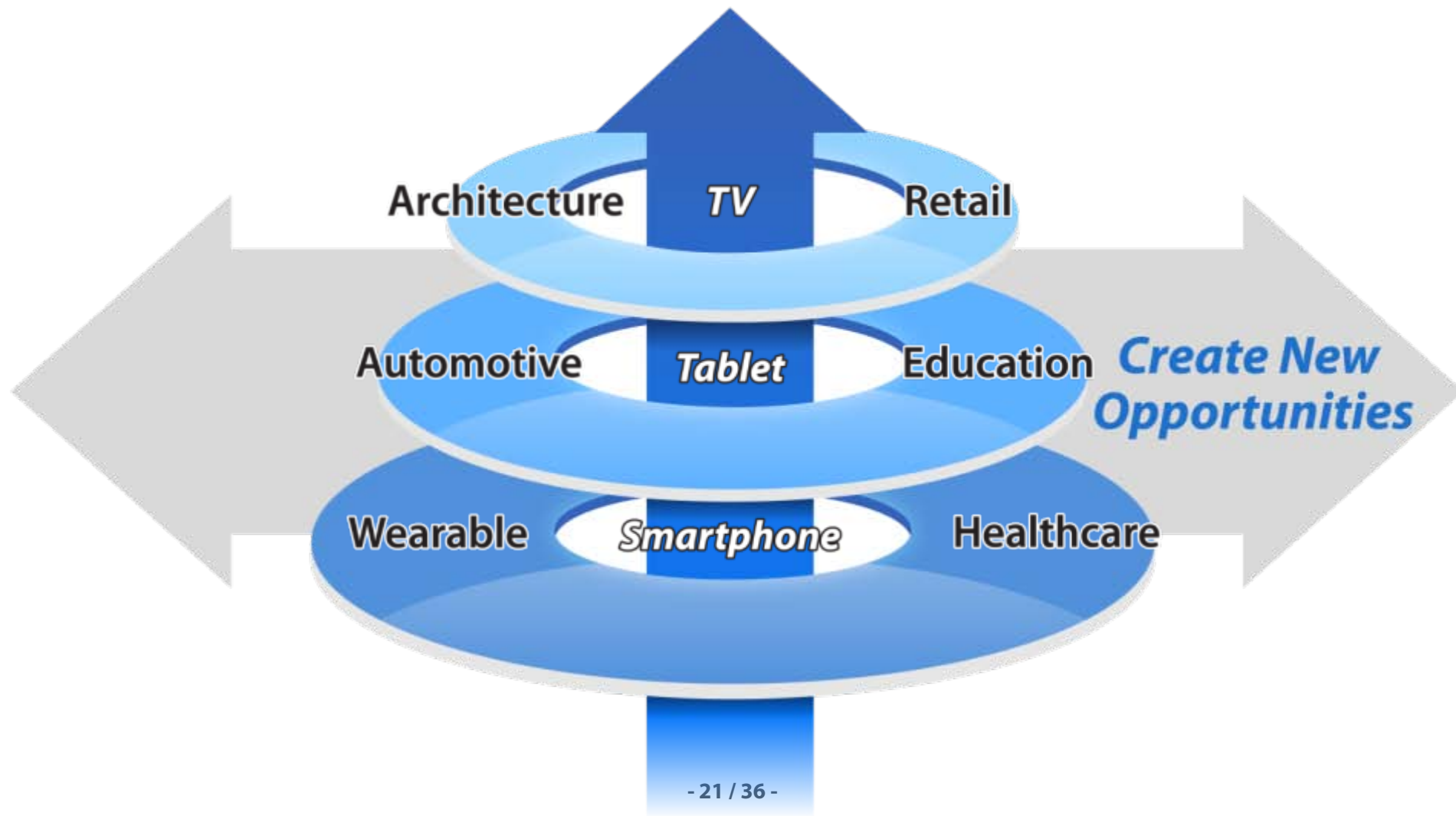
Organize AMOLED ecosystem through JVs & capital investment



Contents

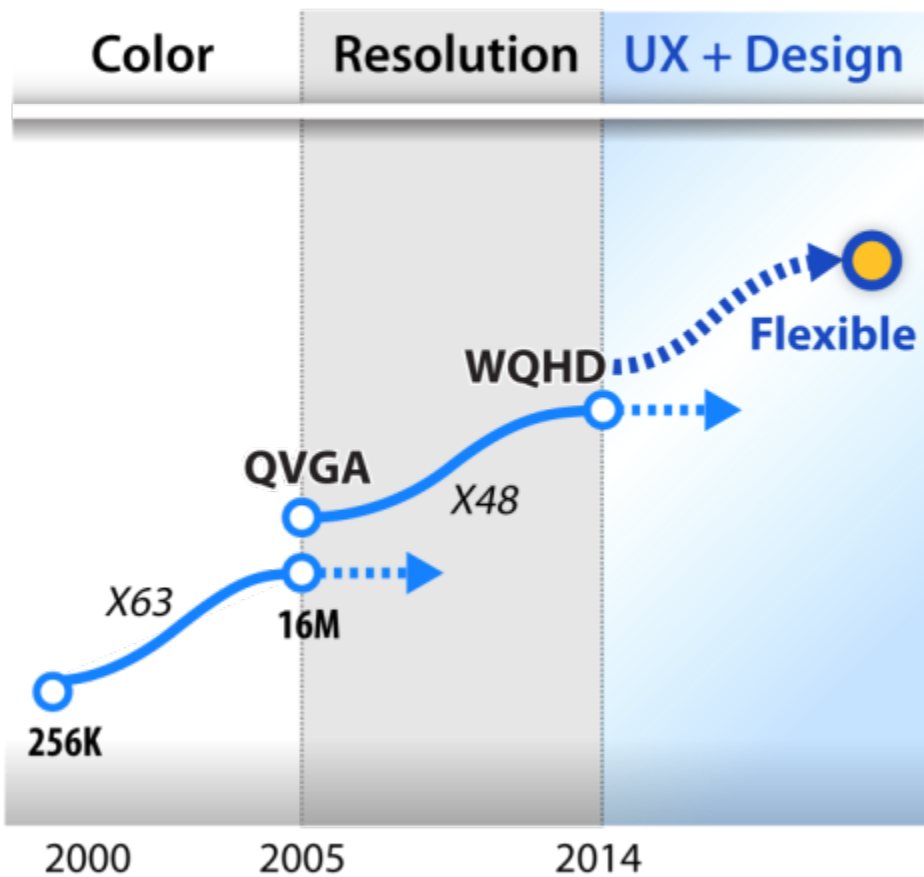
- I Business Overview
- II Industry Outlook
- III SDC Core Competency
- IV SDC Strategy**

Command Current Market



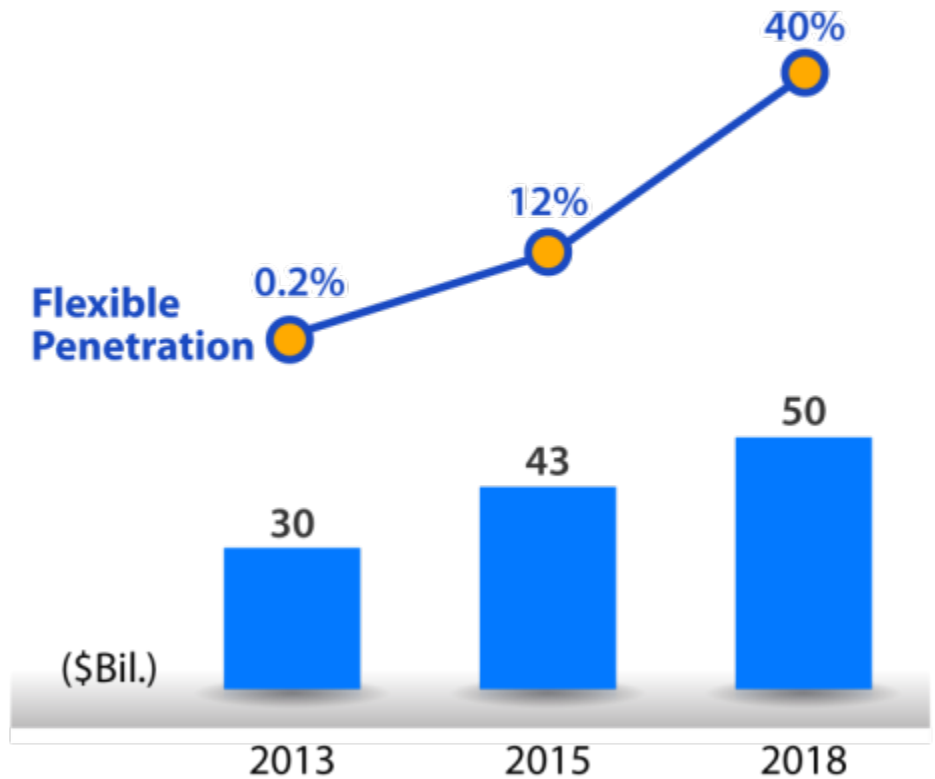
Competition : Color → Resolution → Design Innovation

Change of Differentiation Factors in Mobile



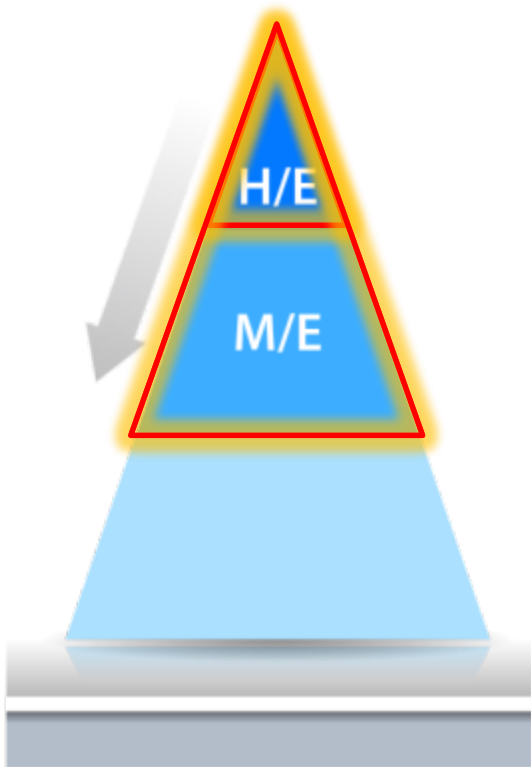
※ QVGA : 320 X 240

Smart Phone Market



※ Source : Display Search, SDC

H/E value up with Flexible, M/E penetration with AMOLED



AMOLED Base Benefit



Contrast
(2,000,000:1 vs 1,000:1)



Color gamut
(100% vs 70%)



Response Time



Thin & Light



Power Efficient

×

Flexible

Profit Maximization



×

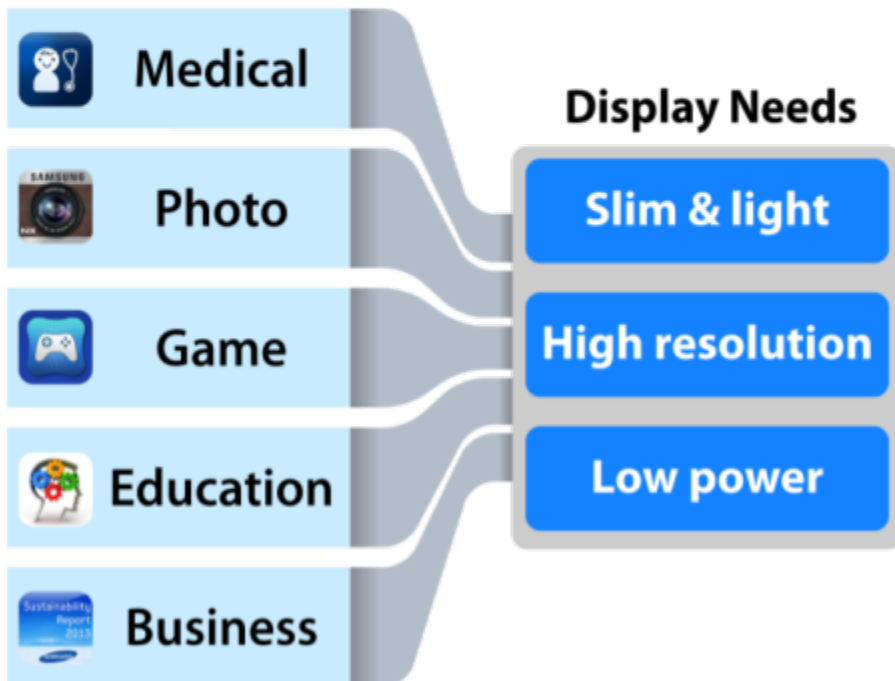
Cost Performance

Scale Economy
Material Innovation

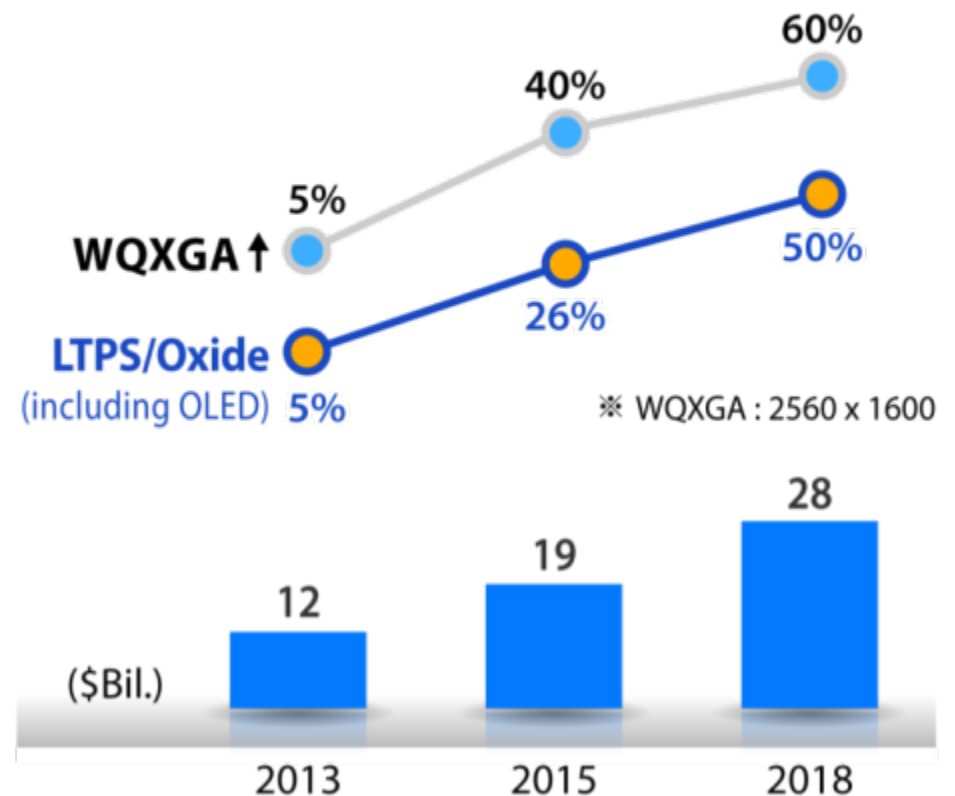
High resolution and low power display for various usages

Trend

"Usage Diversification"

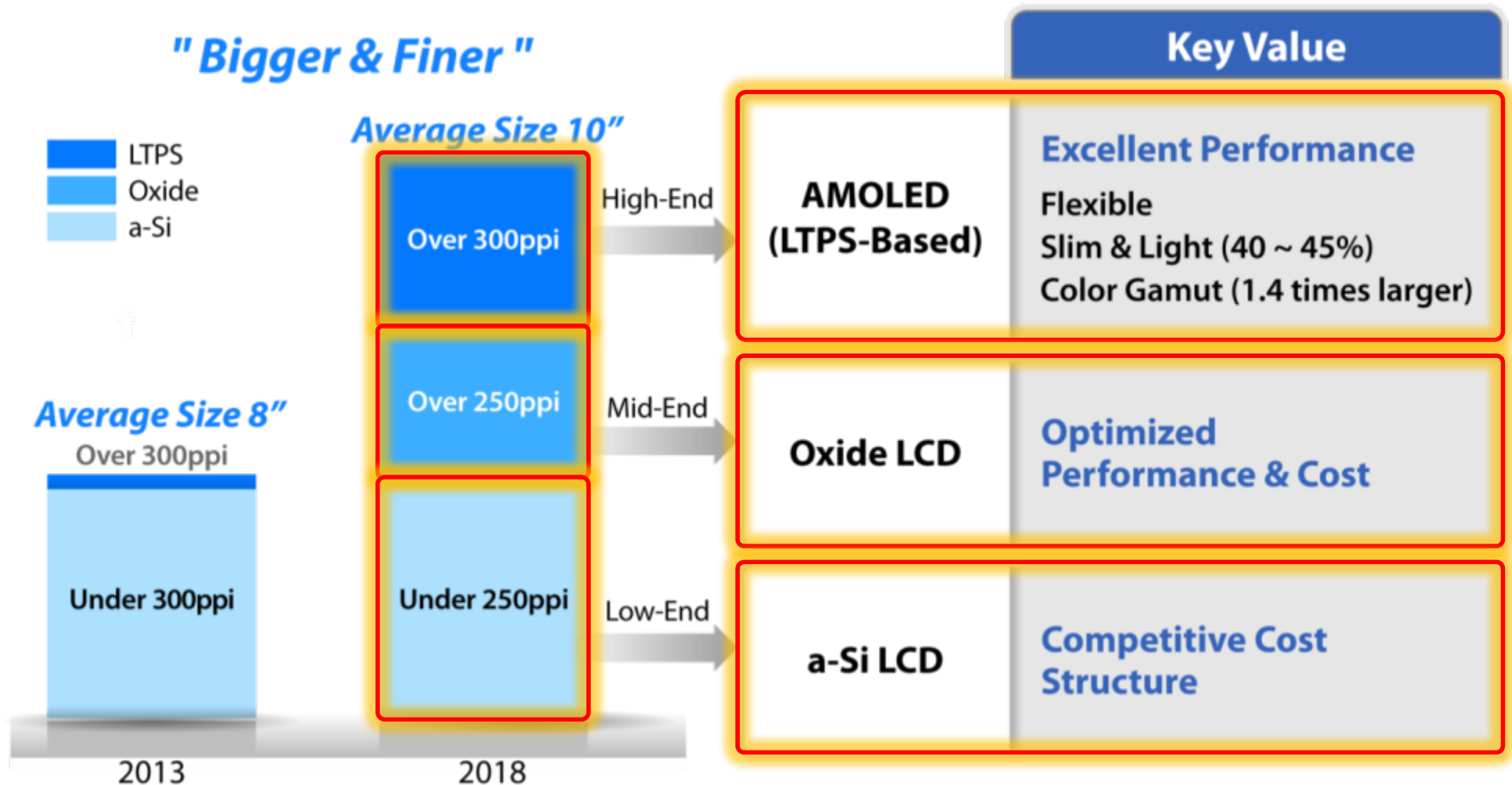


Market



※ Source : Display Search, SDC

Cover all segments : AMOLED for H/E, Oxide for M/E, a-Si for L/E



Real Image, Large size and Immersive Design

Trend

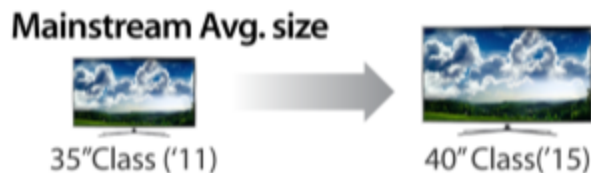
Resolution



Color (Broadcasting)



Size

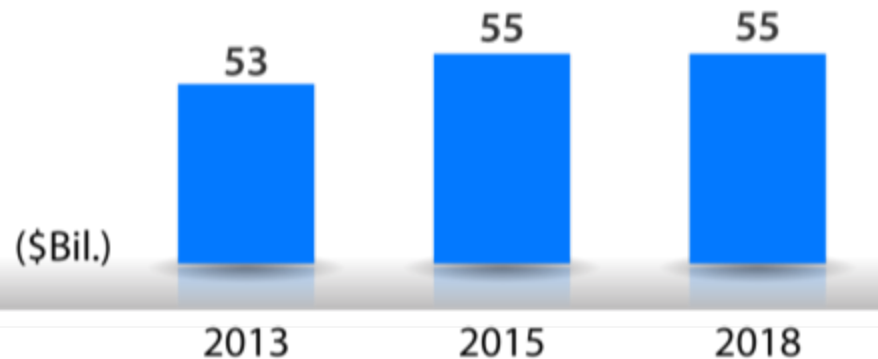
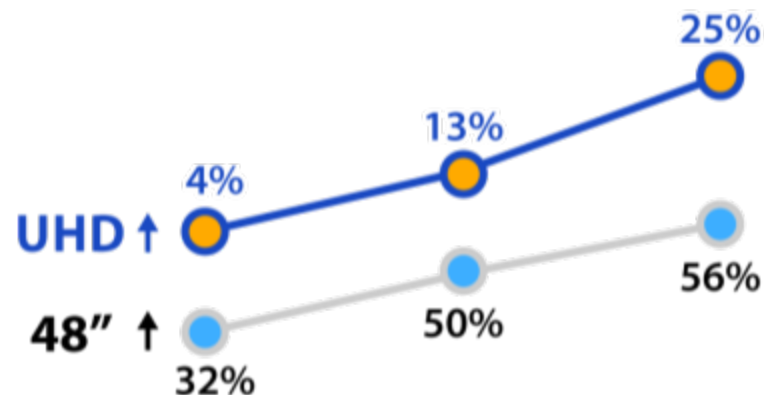


Design



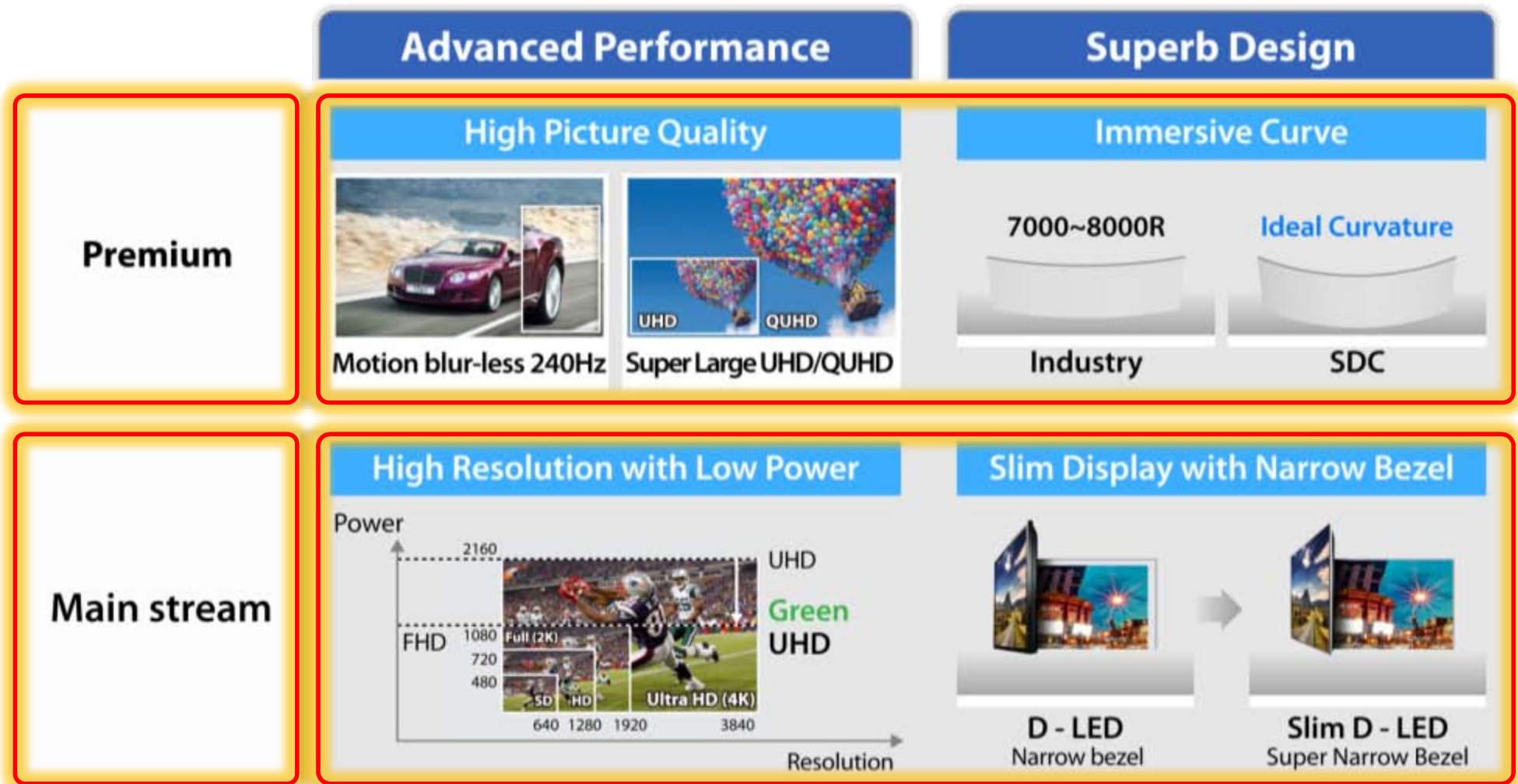
※ QUHD : 7680 X 4320

Market



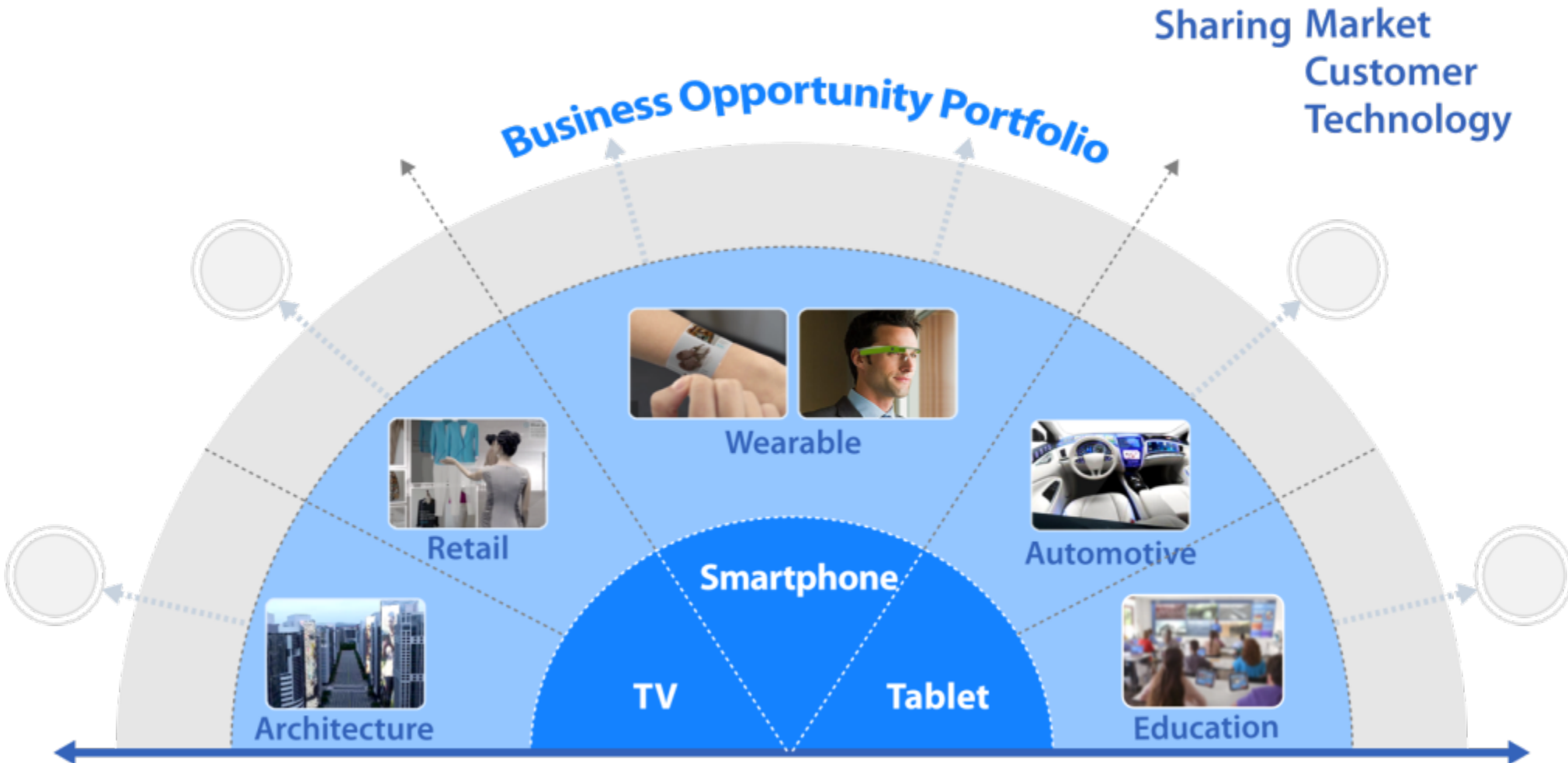
※ Source : Display Search, SDC

Dominate market with leading edge technology



Create New Opportunities

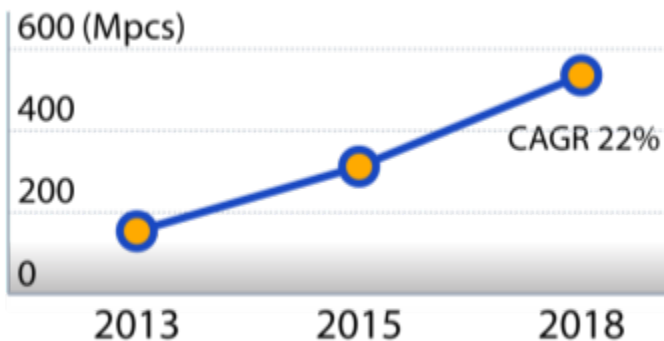
Continuously expanding to different applications



Wearable usage increase in always connected world



Wearable Device Market Forecast



※ Source : Allied Business Intelligence Research

Trend in Wearable

Adaptive Design

Longer Battery Life

AMOLED Value

Flexible

Ergonomic Design Innovation



Slim & Light

40% Thinner & Lighter

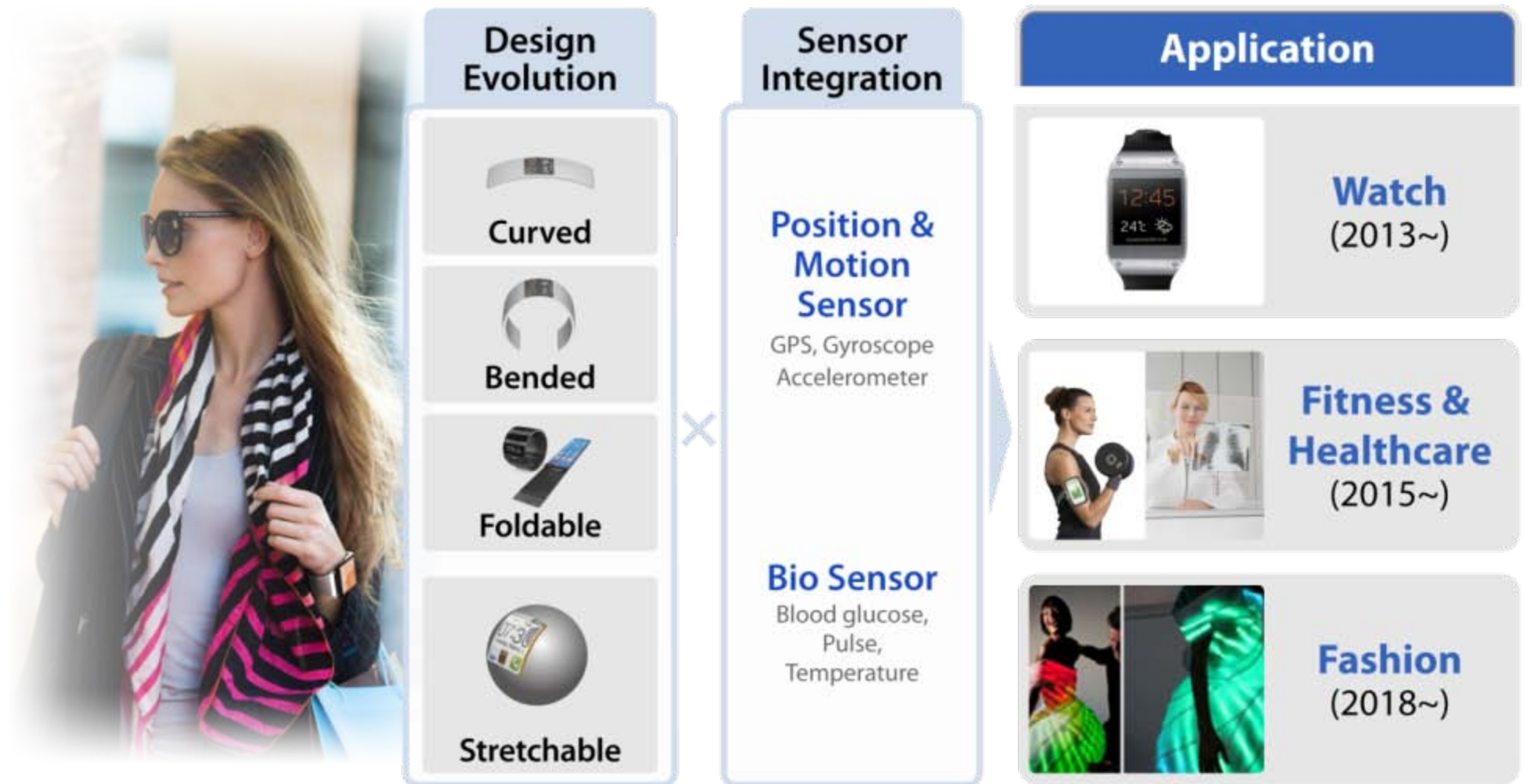


Low Power Consumption

About 65% of LCD's



Create wearable market with Flexible and sensor integration



In the near future, AMOLED will replace TFT LCD



**"Nothing flat inside
& Unbreakable"**

Trend in Automotive	AMOLED Value
Smart & Safe	Contrast (2,000,000:1 vs 1,000:1) 'True black' , Less eye fatigue
	Color Gamut (100% vs 70%) Natural, saturated, consistent color
	Low Temp. Response Time No staggering in extreme coldness
Eco-Friendly	Power Consumption (for EV) About 60% of LCD's
Design	Flexible Design innovation, Unbreakable

Enter the market with AMOLED based differentiation from 2016



E-textbook will evolve to Vook, rapidly replacing paper book

※ Video Book

IT + Education



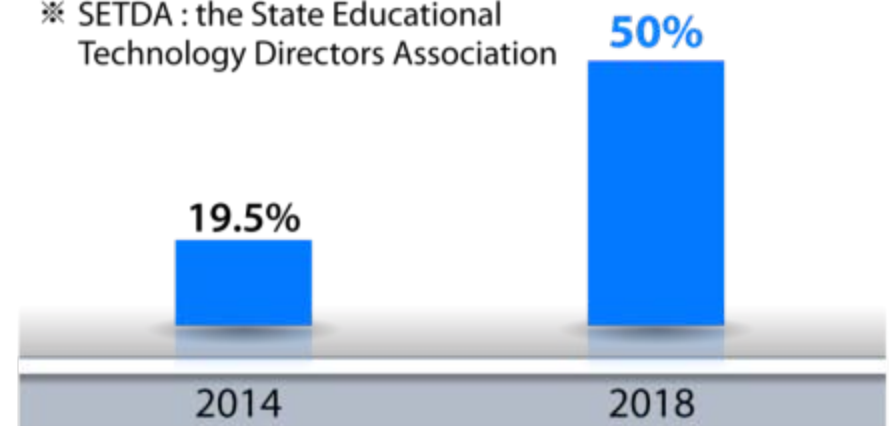
Green

US Digital Textbook Adoption

(Source : SETDA)

※ SETDA : the State Educational
Technology Directors Association

(Contents based)



Total Cost of Ownership

\$ 2,100
Paper Textbook



\$ 1,250
Digital Text Book
(Contents + H/W)

High school 3 Years (USA Today)

(Gartner, OnlineEducation)

Create video book market with AMOLED

VOOK (Video + Book)

1 Color in **Printed Media**



= **AMOLED**
(Adobe RGB 97%)

~~=~~ **LCD**
(Adobe RGB 74%)

2 High Contrast ratio & Resolution for **Readability**

3 Fast Response time for **Video Contents**

Flexible

1 Safety (Unbreakable)

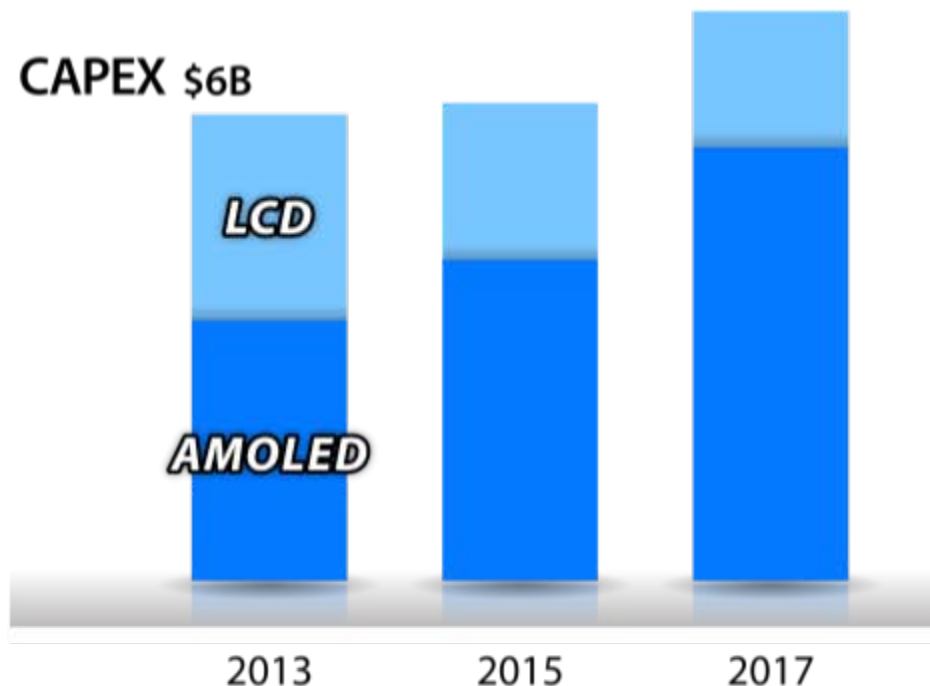


2 Mobility (Carrying Small Seeing Big)



Strategic investment will secure growth momentum

CAPEX Plan



Strategy

Secure AMOLED growth



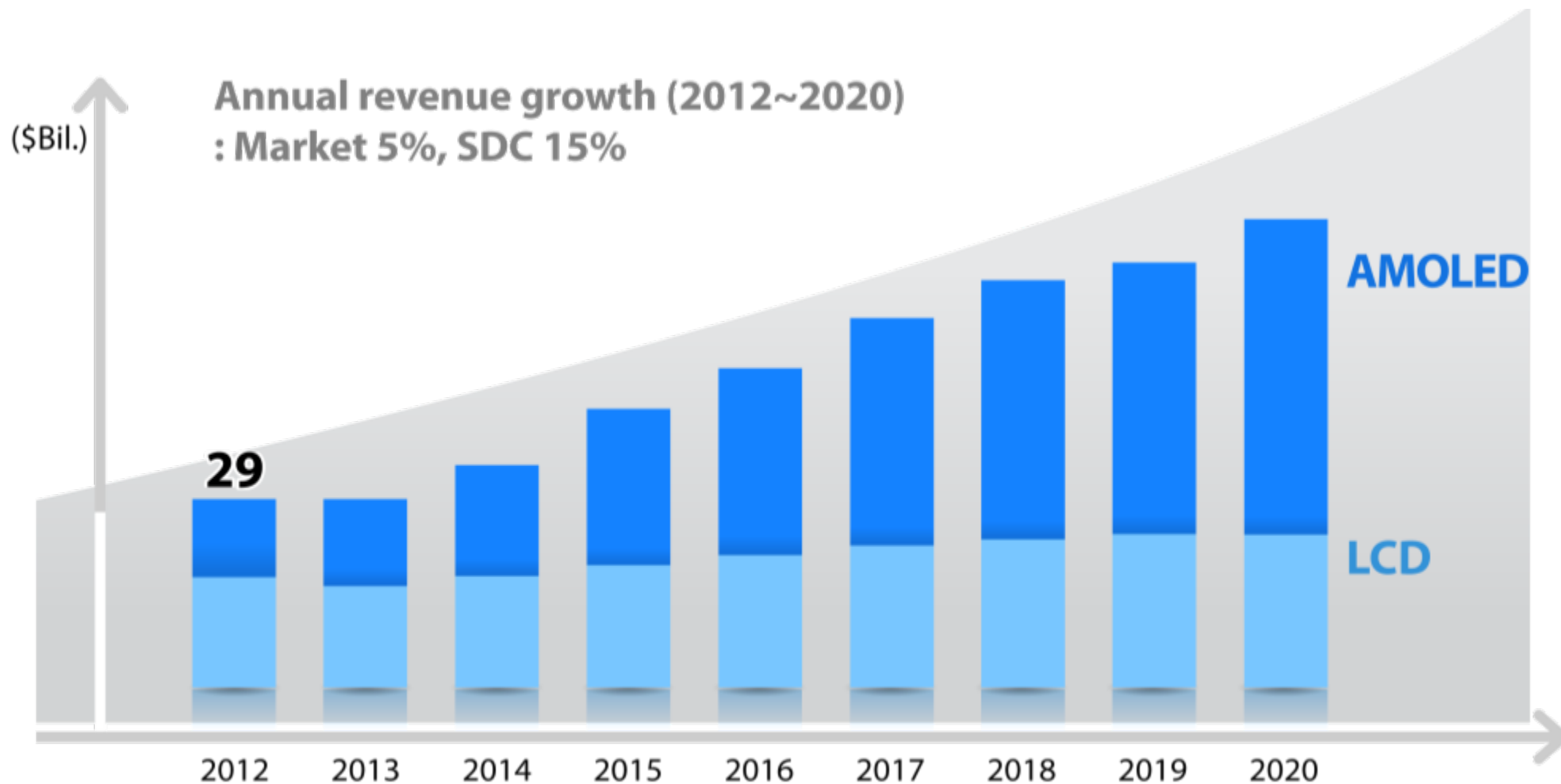
Asan
(Korea)

Sustain growth momentum for LCD



Suzhou
(China)

"What is seen is all of our business area!"



Display industry's outlook is brighter than ever as potential market for displays will be immeasurable in the future.

SDC will continue to lead the industry's growth through innovative products enabled by our technology leadership.

The innovative ways of SDC will create new opportunities, which will allow the realization of

"Display Beyond Imagination"





Thank You

Thank You