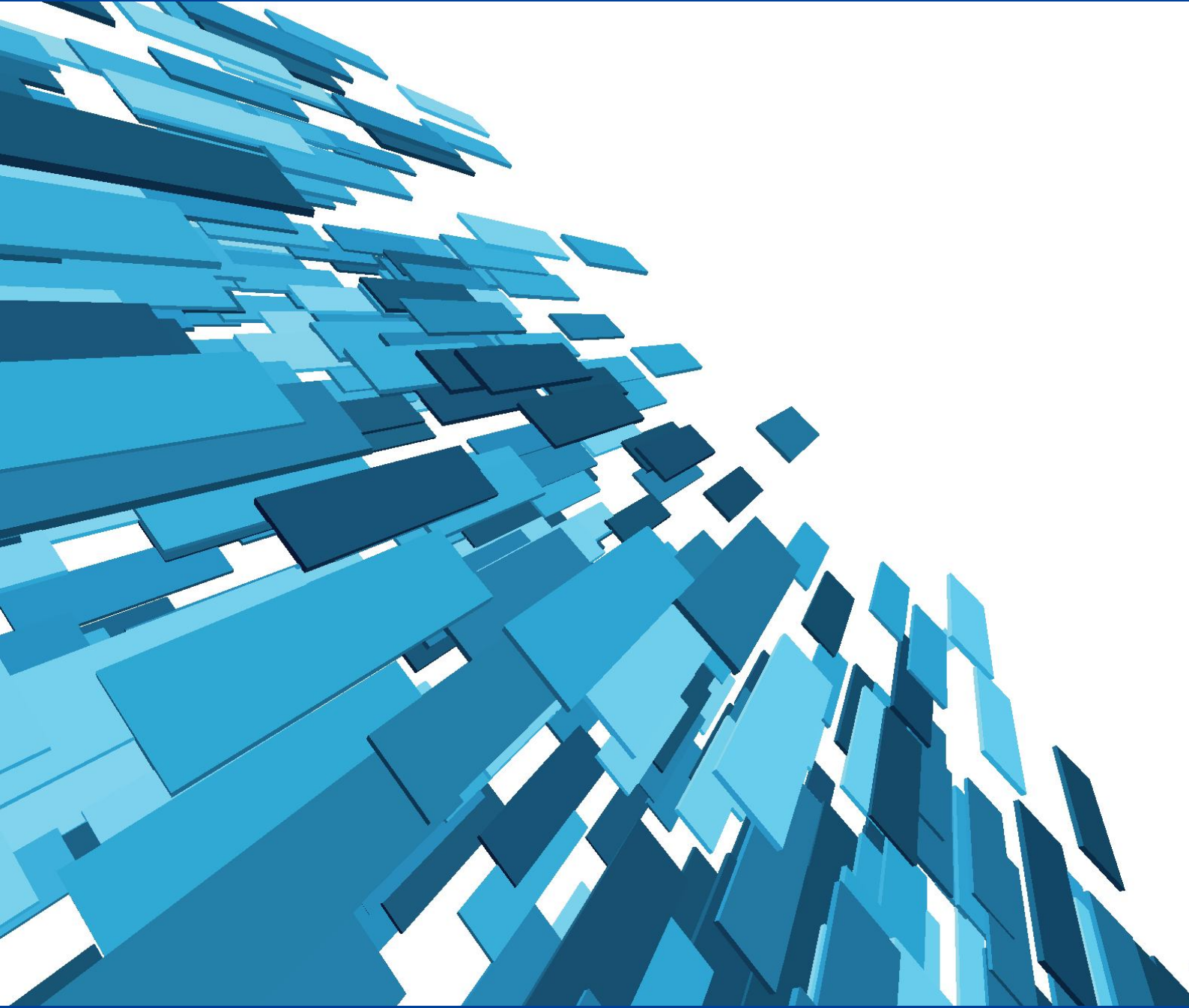


Request for Technology Sourcing (2014.1H)

Samsung Electronics Network Business



This document is for requesting searching companies which has useful technology to collaborate with Samsung Electronics Network Business.

Samsung Network Business builds on developing and commercializing network infrastructure system including 2G/3G/LTE, Core, BS as our major business area. And the following technology items are based on the technical collaboration requirements of Samsung Network Business.

If you have any inquiry of each technology, please contact to the below e-mail.

[contact information] : shkim21c@samsung.com, heeyoung.no@samsung.com

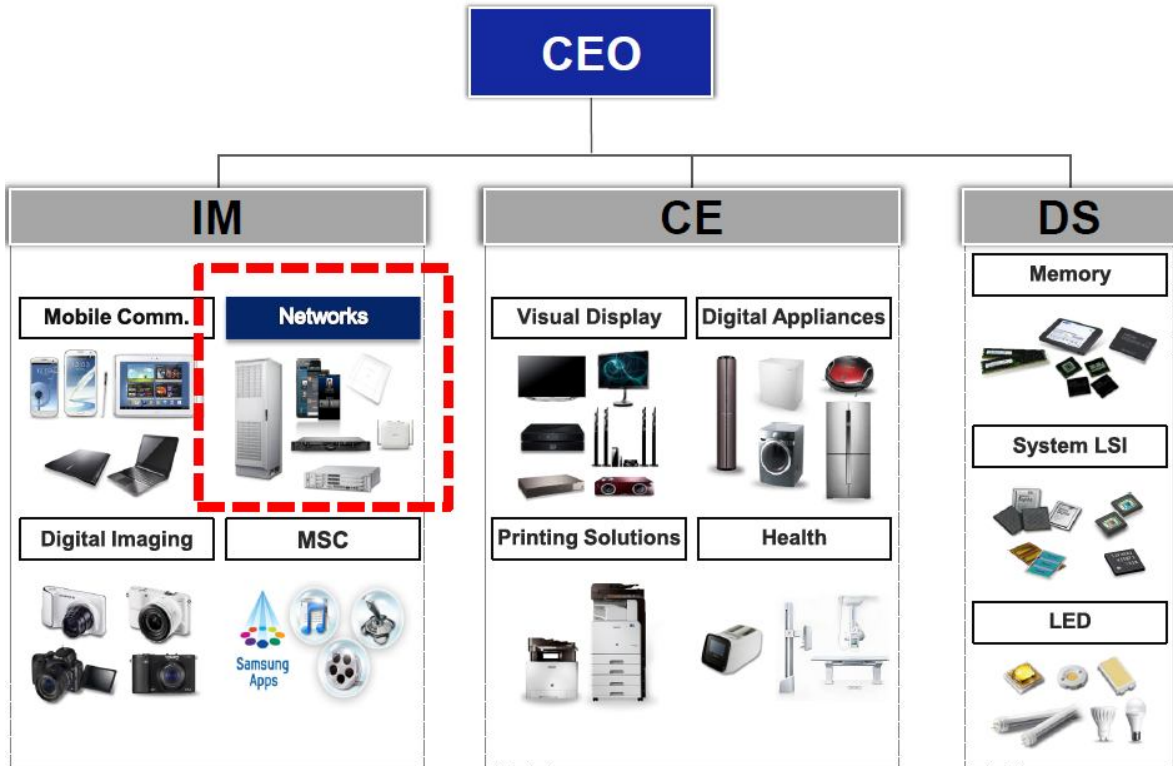
Required Technologies

Category	Technology	Description
Radio Unit	Tx Noise and Leakage Cancellation	Interference Cancelling technology in Wireless transmission - Tx Noise and Leakage Cancellation by analog and digital signal processing in Rx path
	PIM Cancellation	PIM(Passive InterModulation) Cancellation by digital signal processing - PIM is interference signal from passive device during RF signal transmission
	RF Filter technology for Pico cell product	RF Filter technology for Pico cell product - Output power : Support Up to 5W - Size : reduce 80%↑ compared with existing cavity - Weight : reduce 60%↑ compared with existing cavity
	High-efficiency Amp design tech.	High-efficiency Amplifier design tech. - Except for Doherty, envelop tracking, outphasing tech. - Amp Module Efficiency : 50%↑ - Module gain : 55dB↑
Baseband Unit	LIB BMS Tech. for construction BTS ESS	- Need a ESS deployment Technology for Base station - Need a BMS technology to apply ESS to LIB * ESS : Energy Storage System BMS : Battery Management System LIB : Lithium Ion Battery

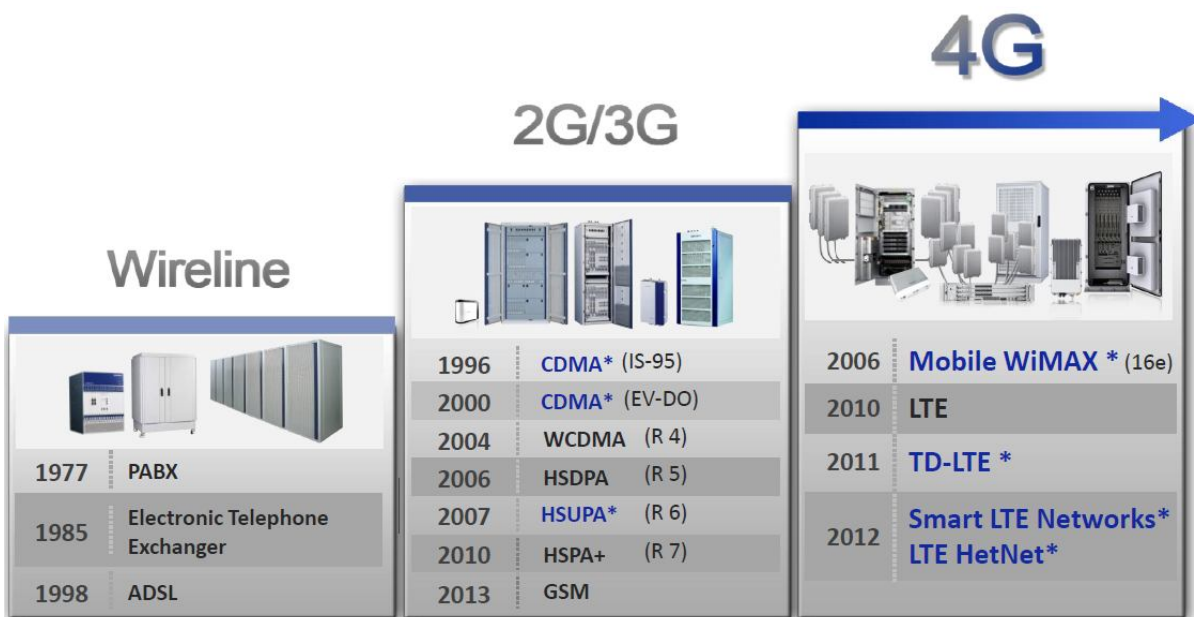
Mecha	Quantification for anti-rain(waterproof) Performance of Outdoor housing	<ul style="list-style-type: none"> - Design Waterproof Gasket, Groove for Outdoor housing - Design Waterproof Architecture for Outdoor housing - Estimate Waterproof performance
	Estimation technology for corrosion of Outdoor housing	<ul style="list-style-type: none"> - Technology for Estimating Weatherability of outdoor housing's chemical material - Technology for Estimating corrosion of outdoor housing's metal material
	Advanced material(Plastic) for Outdoor housing	<ul style="list-style-type: none"> - High-Weatherability Plastics - High-radiation Plastics - High-solidity Plastics
	Multi-functional Advanced material(Plastic)	Tech. of Combining Multi Functional(heat conduction, EM Shielding, High-Strength) fibers
Analytics	Big data, Data Mining	<p>Generation of Valuable data by processing the gathered data</p> <ul style="list-style-type: none"> - Data Mining Library • Data processing based on Open API(Indexing, generate graph, etc) • Support Non-linear Correlation analysis algorithm • Support Time Dependency analysis algorithm • Pattern Abstraction, Pattern analysis based on streaming data • Predictive Analysis
	Distributed Data Store Tech.	<p>Distributed Store of big data</p> <ul style="list-style-type: none"> - Data store based on Big data(Key-value) - Caching based on SSD - Acceleration remote I/O performance based on PCI-E(Ex. R-DMA)
Etc	Any proposal	Any technology which can be adopted to Wireless Communication-system(3G, 4G, LTE core / base station)

Introduction of Samsung Network Business

[Organization]



[Long Industry experience]



* World's 1st Commercial Deployment

[Recent Contracts with Major operators]

Europe



Three.co.uk

- FDD LTE, Nationwide
- Commercial Service in Q3 2013

USA



- FDD LTE/CDMA, 1/3 of USA
- Includes Chicago, San Francisco and Seattle

CIS



- FDD LTE, largest carrier in region
- Pilot in Q1 2013

South America



- FDD LTE, Chile
- Pilot in Q1 2013

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Samsung Electronics Co., Ltd. is a global leader in technology, opening new possibilities for people everywhere. Through relentless innovation and discovery, we are transforming the worlds of televisions, smartphones, personal computers, printers, cameras, home appliances, LTE systems, medical devices, semiconductors and LED solutions. We employ 236,000 people across 79 countries with annual sales exceeding KRW 201 trillion. To discover more, please visit www.samsung.com. For more information, please visit www.samsung.com.

For more information about Network Business

For more information about the Samsung Electronics Network Business, visit www.samsungnetworks.com.



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Samsung Electronics Co., Ltd.
416, Maetan 3-dong,
Yeongtong-gu
Suwon-si, Gyeonggi-do 443-772,
Korea

www.samsung.com

