



Wireless in Korea - Lessons, Implications, and Opportunities

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- ✓ **Glimpse into the future - Wireless in Korea**
- ✓ **Korea's Leadership in Wireless Markets**
- ✓ **Factors Contributing to Korea's Leadership**
- ✓ **Leveraging Opportunities to Learn, Collaborate**

Wireless and mobility mean different things...



Excerpts from a recent focus group discussion with consumers

Moderator:	Can any of you play movies you've recorded on your PVR on other televisions in your home?
Participant:	Yes, I can.
Moderator:	Tell me more about that...
Participant:	I just unplug my TIVO, take it upstairs, and plug it in to the television in the playroom {laughter from observers}

Convergent devices, divergent applications

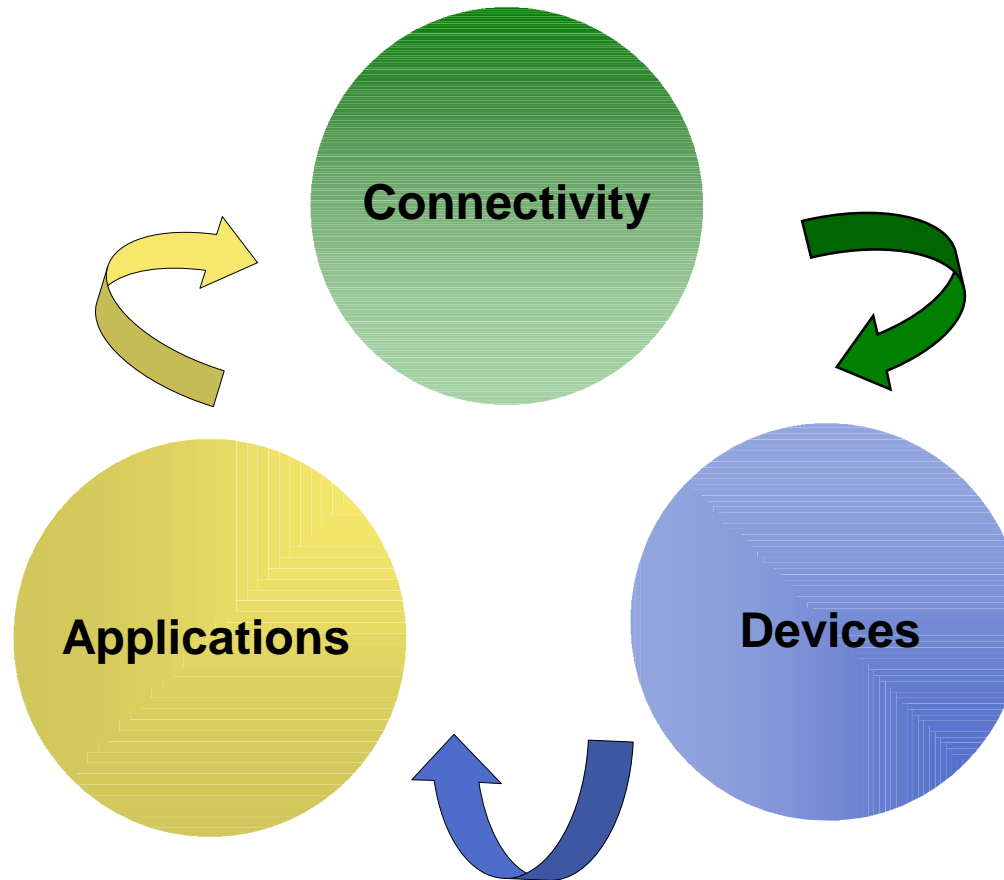


Emerging Apps	Connecting, Integrating, or Combining...			Challenges	
Text messaging	Cellphone	+	Instant messaging	<ul style="list-style-type: none"> ∅ “Really <u>new</u> products” (to consumers) ∅ Potentially <u>disruptive</u> technology ∅ Considerable <u>speculation</u> about market potential ∅ Consumers using existing devices in ways that are new, <u>unfamiliar</u> ∅ Customers have limited <u>knowledge</u> of product or features ∅ Significant <u>gap</u> between penetration and potential ∅ Market size, timing <u>uncertain</u> 	
Wireless e-mail	Wireless device	+	E-mail		
Camera phone	Cellphone	+	Camera		
Mobile music	Cellphone	+	Portable music player		
LBS	Cellphone	+	GPS		
Wireless gaming	Wireless device	+	Games		
m-payment	Wireless device	+	Debit/credit card		
Context	Wireless device	+	Sensors and agents		
Networked Vehicles	Vehicles	+	Wireless, sensors, context, ...		
Networked Home	PC's and Broadband	+	TV, Stereo, Security, Appliances...		

“Virtuous Spiral” fuels growth... eventually

The Virtuous Spiral

Self-reinforcing cycle in which advances in one sphere trigger advances in others



We're not in Kansas anymore...



Stunning Display

Flexible Form Factor

Surround Sound

Large storage Capacity

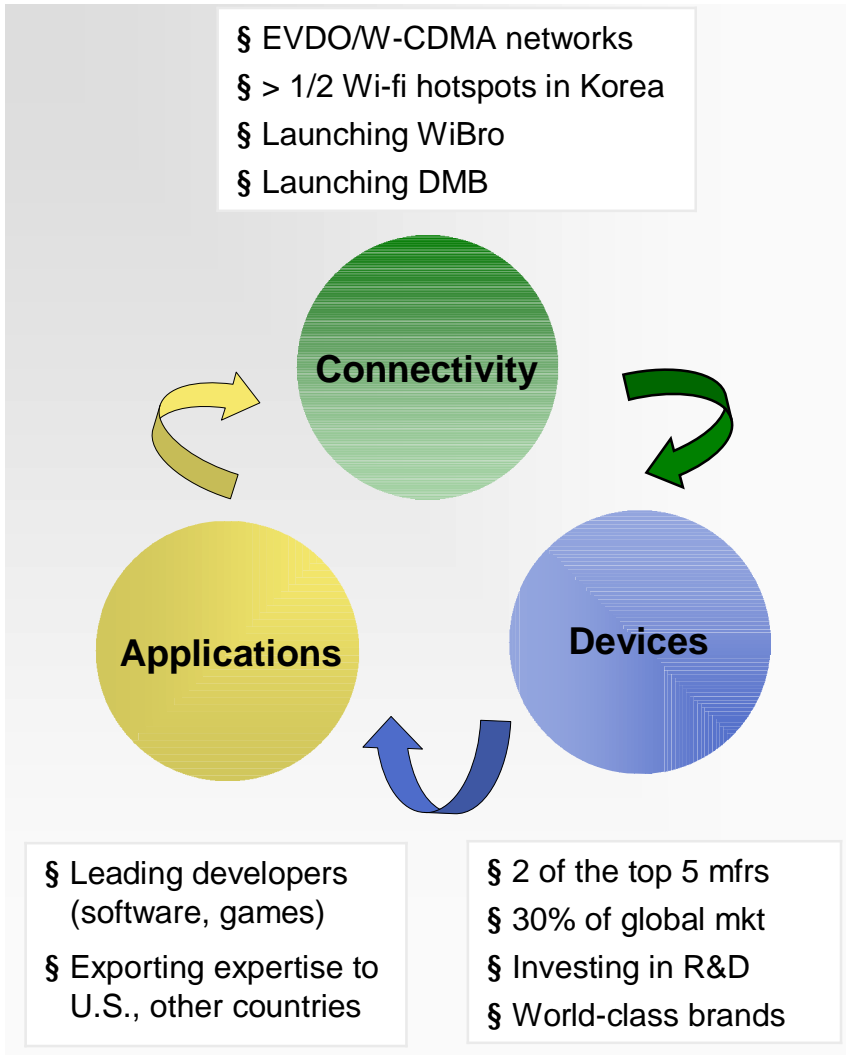
Long Battery Life



Typable keypad

- | Features/Applications |
|--|
| § Take/send photographs |
| § Record/make a movie |
| § Play MP3's/listen to FM, satellite radio |
| § Access PIM/PDA |
| § Download/view videos |
| § Watch television |
| § View/listen to e-mail |
| § Capture/convert images (business cards, bar codes, etc.) |
| § Authenticate (fingerprint, voice) |
| § Mobile credit card |
| § Monitor home/asset |
| § Receive alerts |
| § Visit Internet websites |
| § Locate friends/family |
| § Use "off network" |
| § Access information (e.g., museum guide) |
| § Monitor health status |

Korea's Leadership in Wireless



Achievements	
Korea #1 Wireless Market	<ul style="list-style-type: none"> ∅ Mobile penetration > 75% ∅ 40% use wireless internet ∅ 75% use 3G
Data Revenues	<ul style="list-style-type: none"> ∅ Data > 20% of ARPU ∅ Increasing by 30% in '05 ∅ Expected to double 2005-2009
Device Manufacturers	<ul style="list-style-type: none"> ∅ Award winning quality, design ∅ Samsung # 2, LG #5 globally ∅ Gaining share, market stature
Innovation	<ul style="list-style-type: none"> ∅ Significant lead (2-3 years) in: <ul style="list-style-type: none"> § Converged services (OnePhone) § Wireless broadband § DMB
Global Competitiveness	<ul style="list-style-type: none"> ∅ IT exports = \$75B ∅ Mobile phone contribution substantial, growing

How has Korea done it?



R&D	<ul style="list-style-type: none">Ø Smart, significant investmentsØ ETRI
Culture	<ul style="list-style-type: none">Ø “Techno-ready” consumers
Innovation	<ul style="list-style-type: none">Ø Bold, ambitious strategy
Public Policy	<ul style="list-style-type: none">Ø Leadership, investment by government agencies (MIC)Ø IT 839, Digital New DealØ U-Korea
Cooperation	<ul style="list-style-type: none">Ø GovernmentØ IndustryØ Academics

Leveraging lessons from Korea



- ✓ **Benchmarking**
- ✓ **Cooperative agreements, collaboration (KOTEF)**
- ✓ **Joint ventures (e.g., Earthlink and SKT)**
- ✓ **R&D Investments in Korea**
- ✓ **Others...**



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Dr. Phil Hendrix is the founder and director of immr (the Institute for Mobile Markets Research), a research organization focused on strategic issues in emerging wireless/mobile markets. He specializes in helping organizations calibrate demand and accelerate the adoption of really new products. Dr. Hendrix has developed perspectives and research-based tools to help clients uncover hurdles slowing adoption, trigger interest and adoption among prospects, and optimize the features and pricing of new products and services. Much of his work incorporates innovative research approaches (qualitative and quantitative) to develop new insights and guide decisions. He has developed and led significant engagements, often involving multiple business units, with leading clients in telecommunications (AT&T, BellSouth, Cingular, and SBC), financial services (Allstate, American Express), transportation (UPS), and others.

Before founding immr, Phil was a partner with DiamondCluster (strategy and technology consultancy), founder and head of IMS (Integrated Measurement Systems), and a principal with Mercer Management Consulting. He has held faculty and research positions at Emory University and the University of Michigan, teaching courses in research design and analysis, buyer behavior, and strategy, and the Survey Research Center at U of M. After receiving his PhD from the University of Michigan, Dr. Hendrix completed post-doctoral studies in applied statistics and mathematical psychology.