

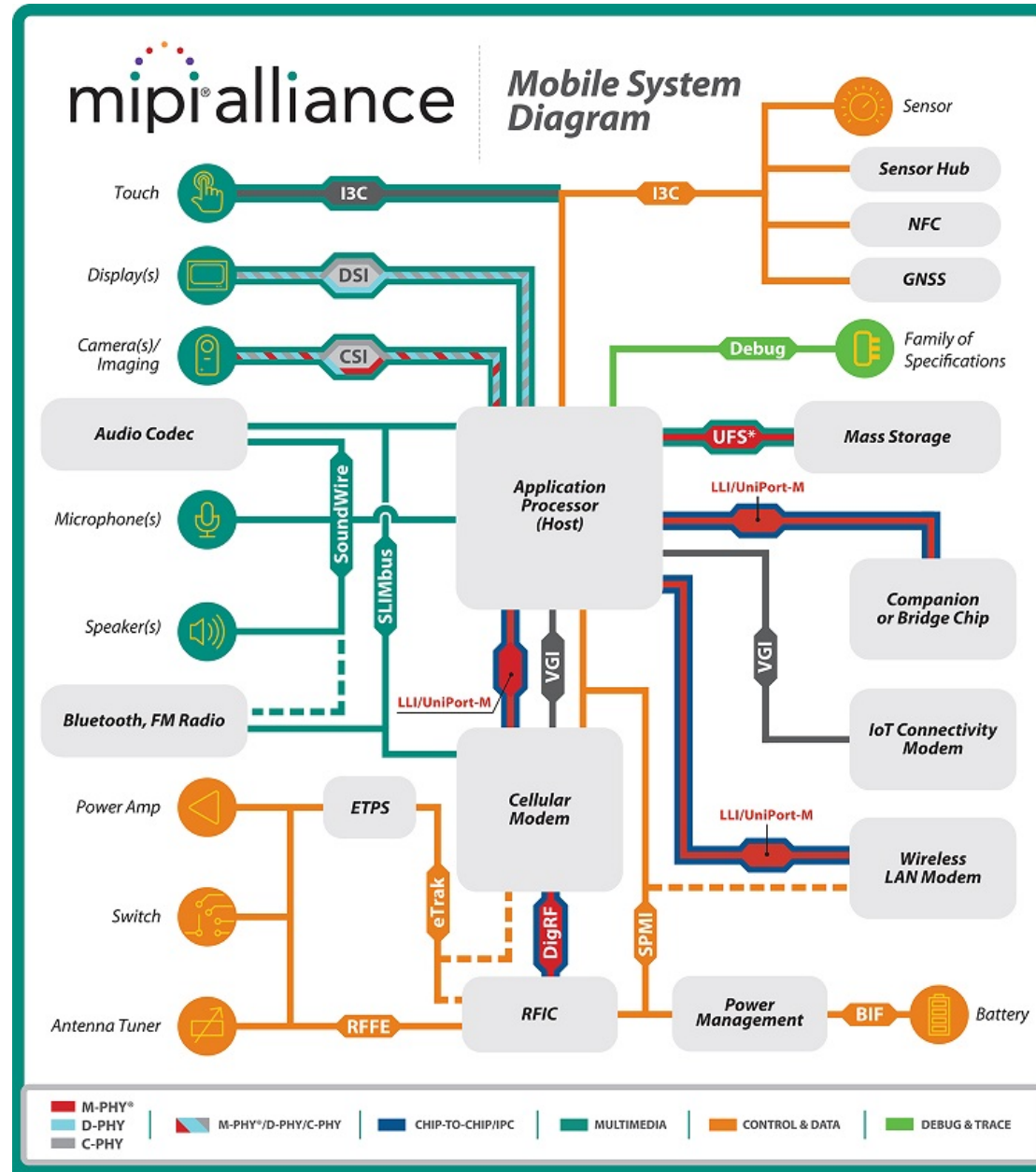
The World of Bits, Pixels and Sensors

Presented by **Dr. Aloknath De**
Senior Vice President, CTO- Samsung India (SRI-B)

27 OCT 2017

Marvelous Contributions of MIPI Alliance

SAMSUNG





Connected Thinking

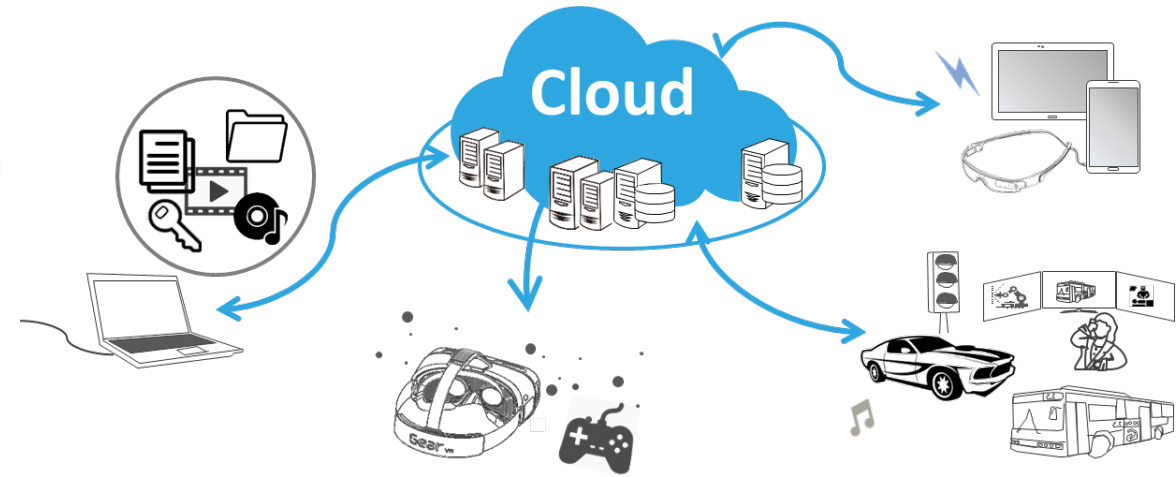
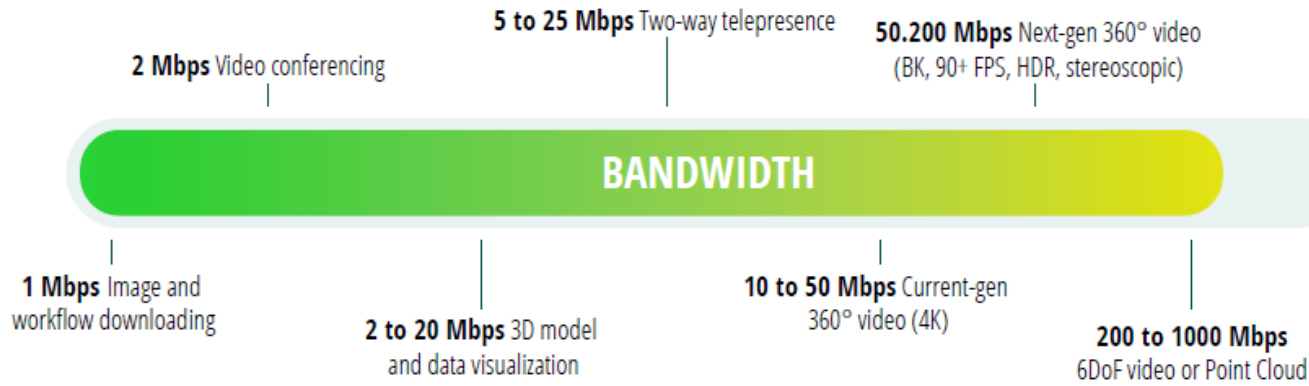
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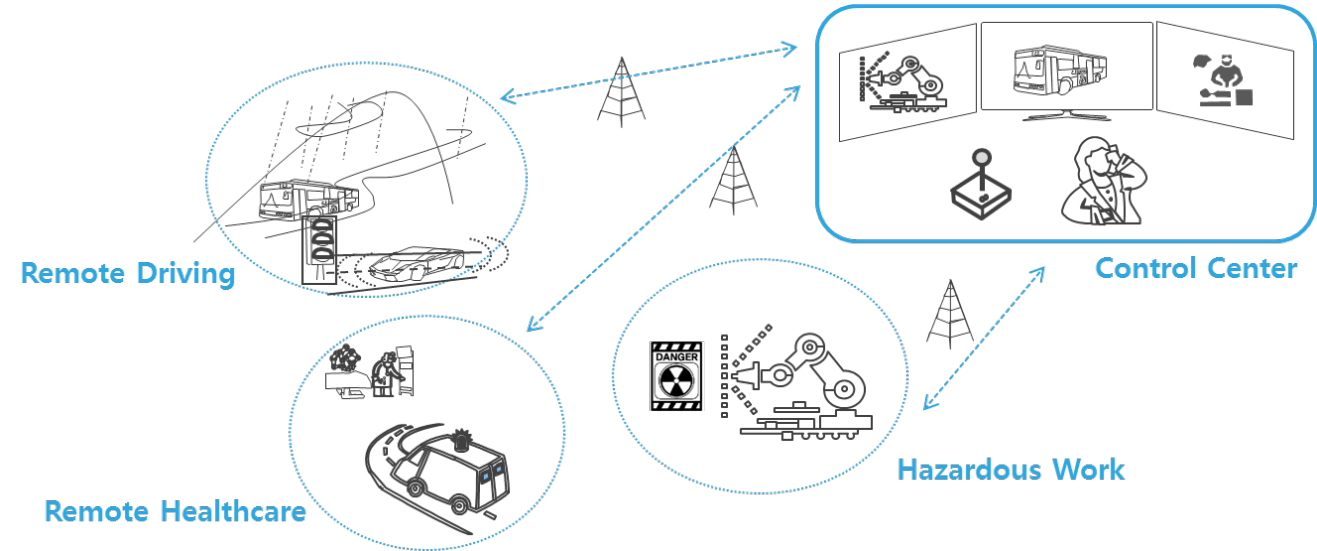
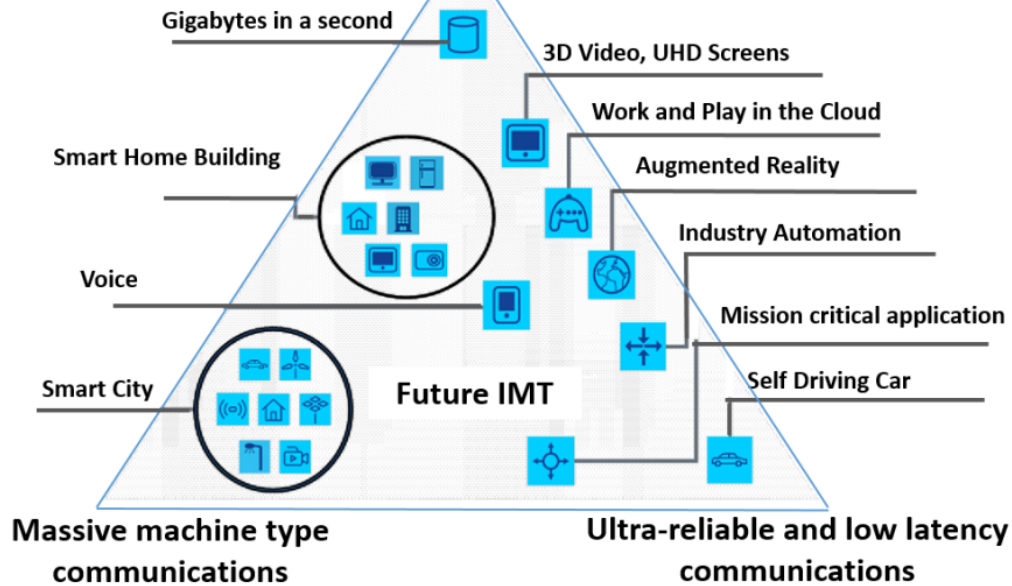


What can you do with 5G?

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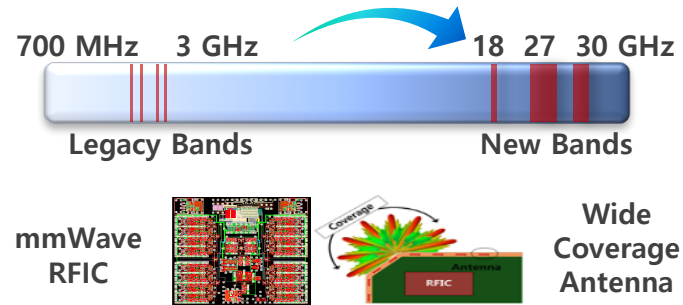


Enhanced Mobile Broadband

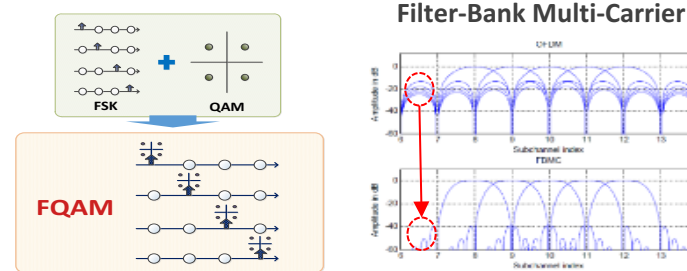


Disruptive Technologies for Significant Performance Enhancement

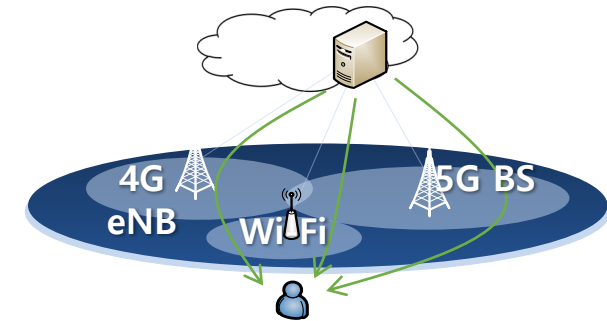
> 6 GHz System/RFIC/Ant.



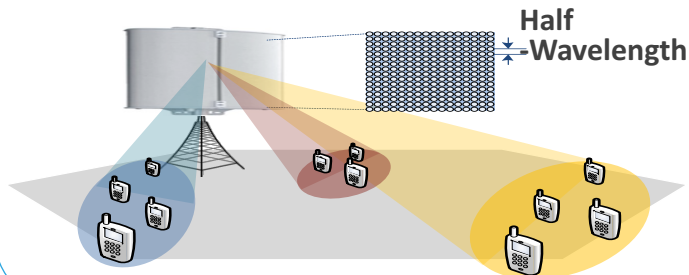
New Waveform Design



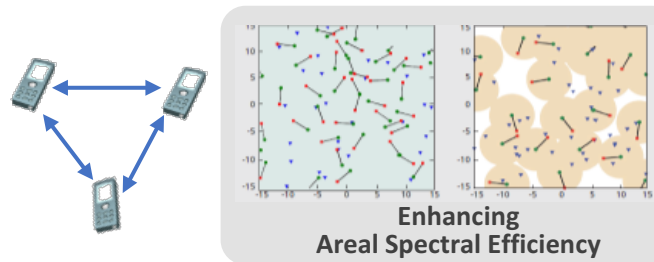
Multi-RAT Interworking



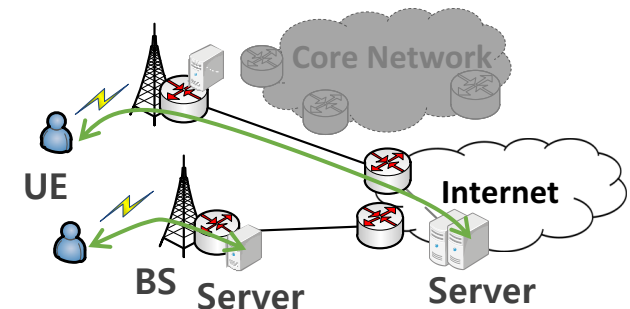
< 6 GHz Massive MIMO



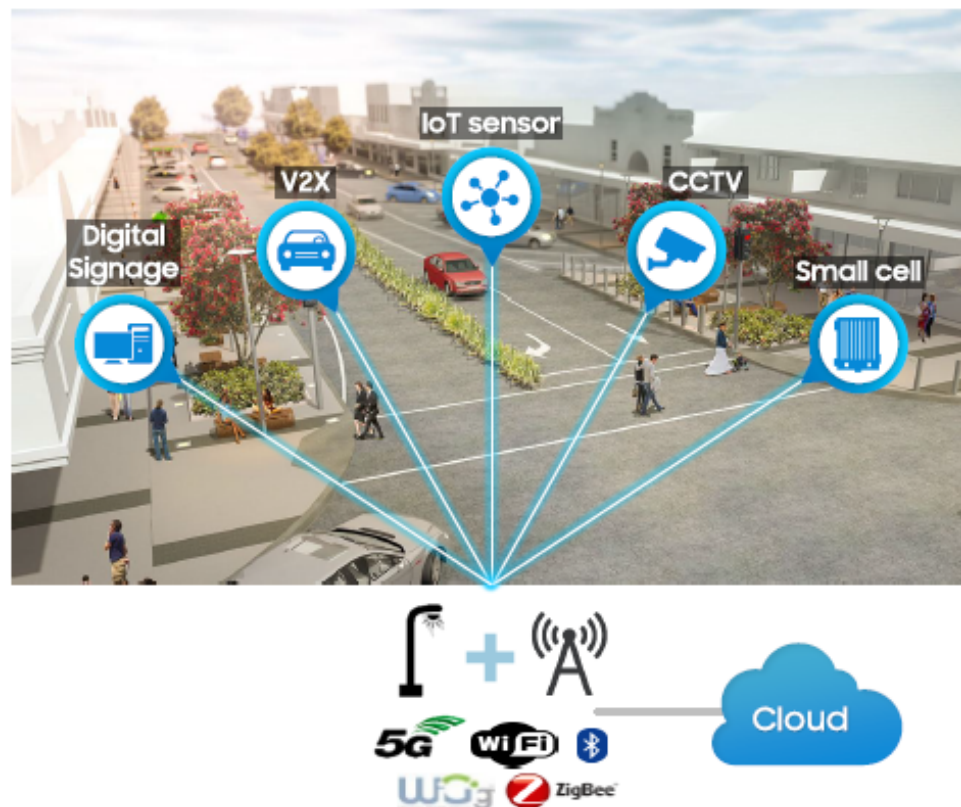
Advanced D2D



Enhanced Flat NW



✓ 5G Connectivity enables Collection, Delivery and Analysis of Live Data



One Connectivity Node covers

(500m Radius)

10 x CCTVs $10 \times 24\text{Mbps} = 240\text{Mbps}$

1 x Digital Signage $1 \times 24\text{Mbps} = 24\text{Mbps}$

5 x LTE Smallcells $5 \times 240\text{Mbps} = 1,200\text{Mbps}$

250 x sensors $250 \times 256\text{kbps} = 62.5\text{Mbps}$

5 x Public WiFi $5 \times 300\text{Mbps} = 1,500\text{Mbps}$

Total 3Gbps

Samsung and KDDI 5G Handover Test

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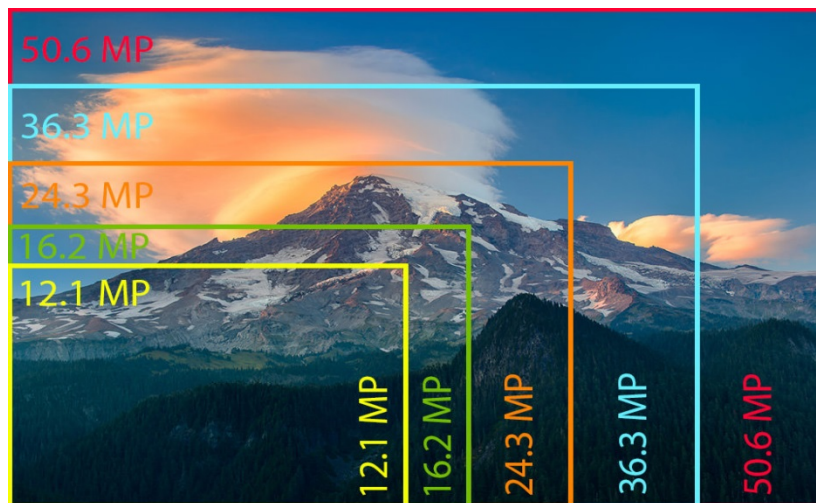
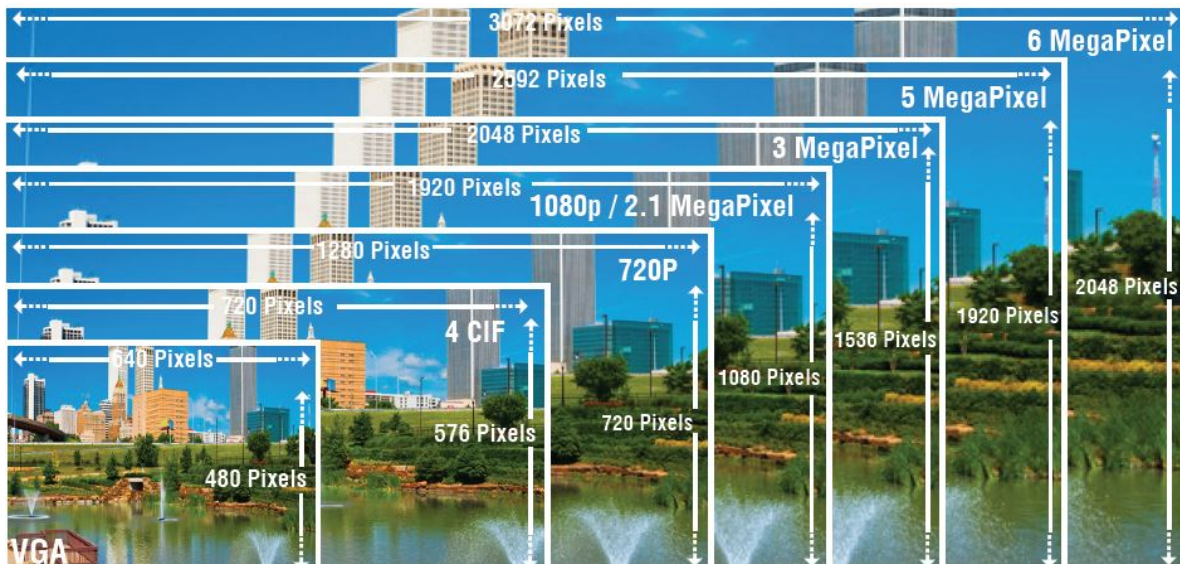


Augmented Reality

Different types of Camera and Megapixels

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Megapixels



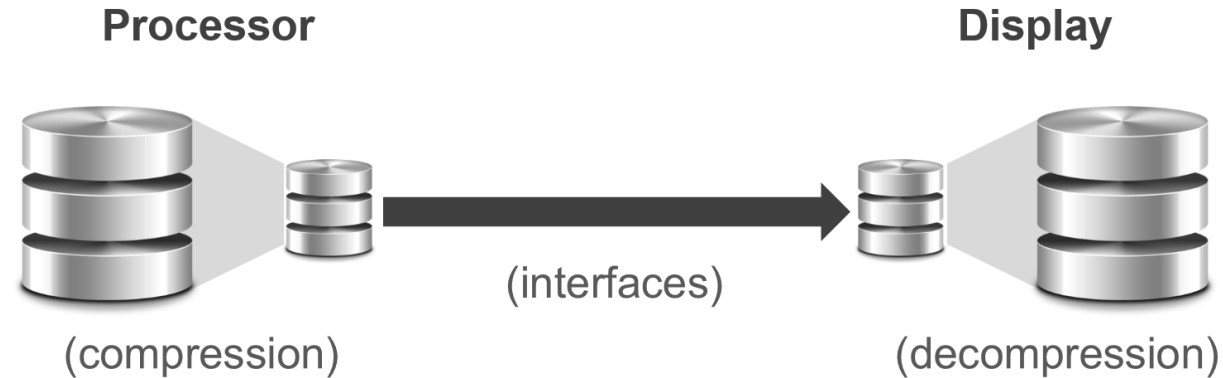
Revolution of cameras



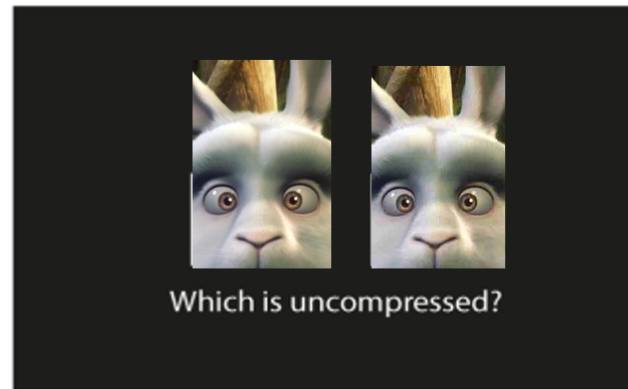
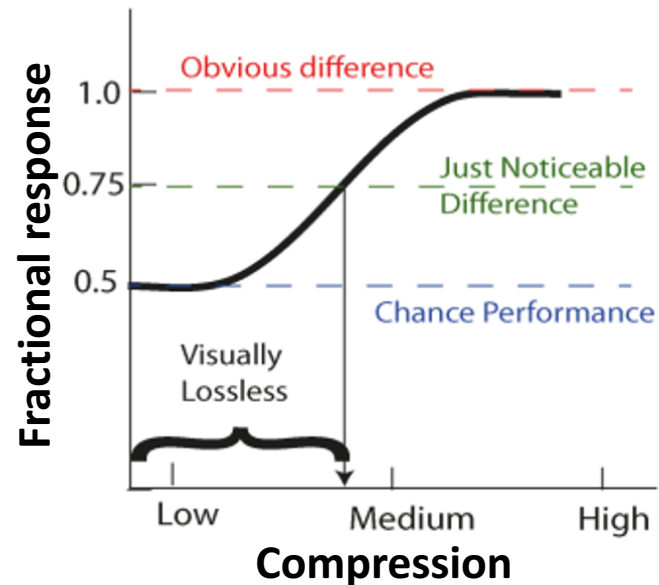
Gear 360



MIPI DSI and DSI-2 and VESA DSC compression



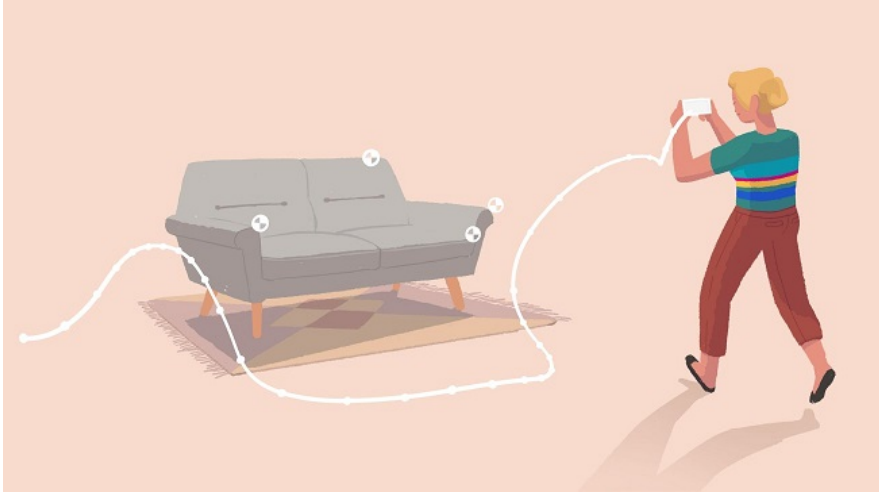
ISO/IEC standardized procedure to verify image quality



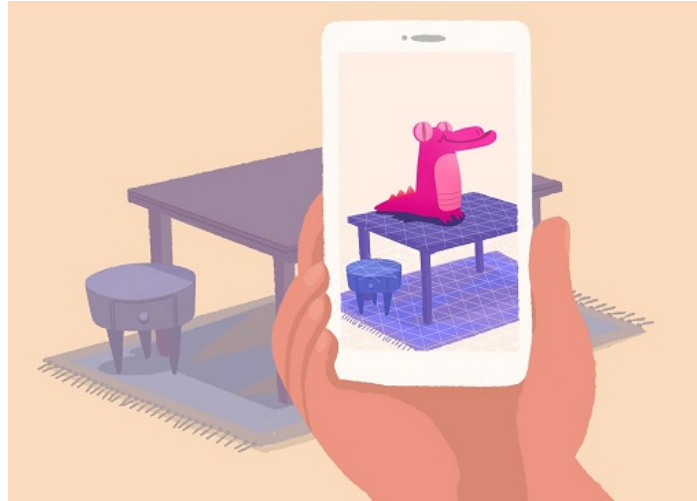
AR Overview and Applications

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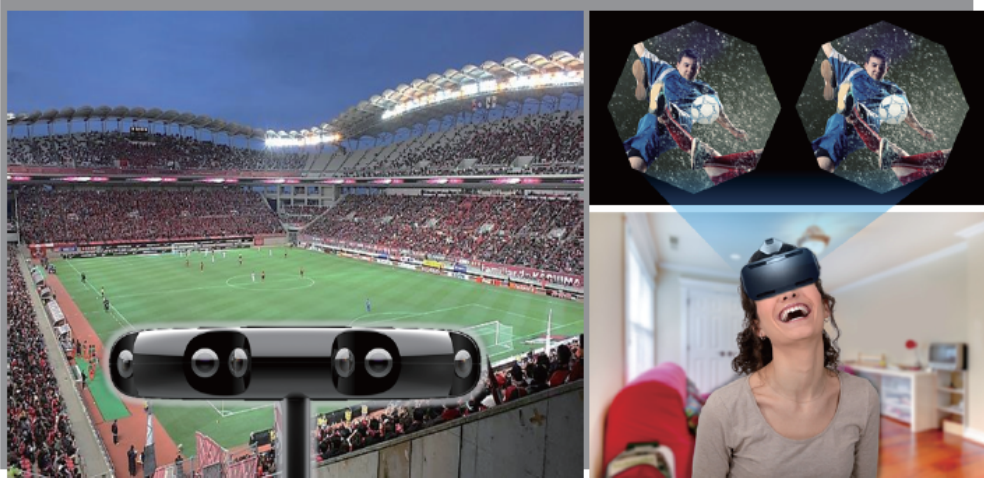
Motion Tracking



Environmental Understanding

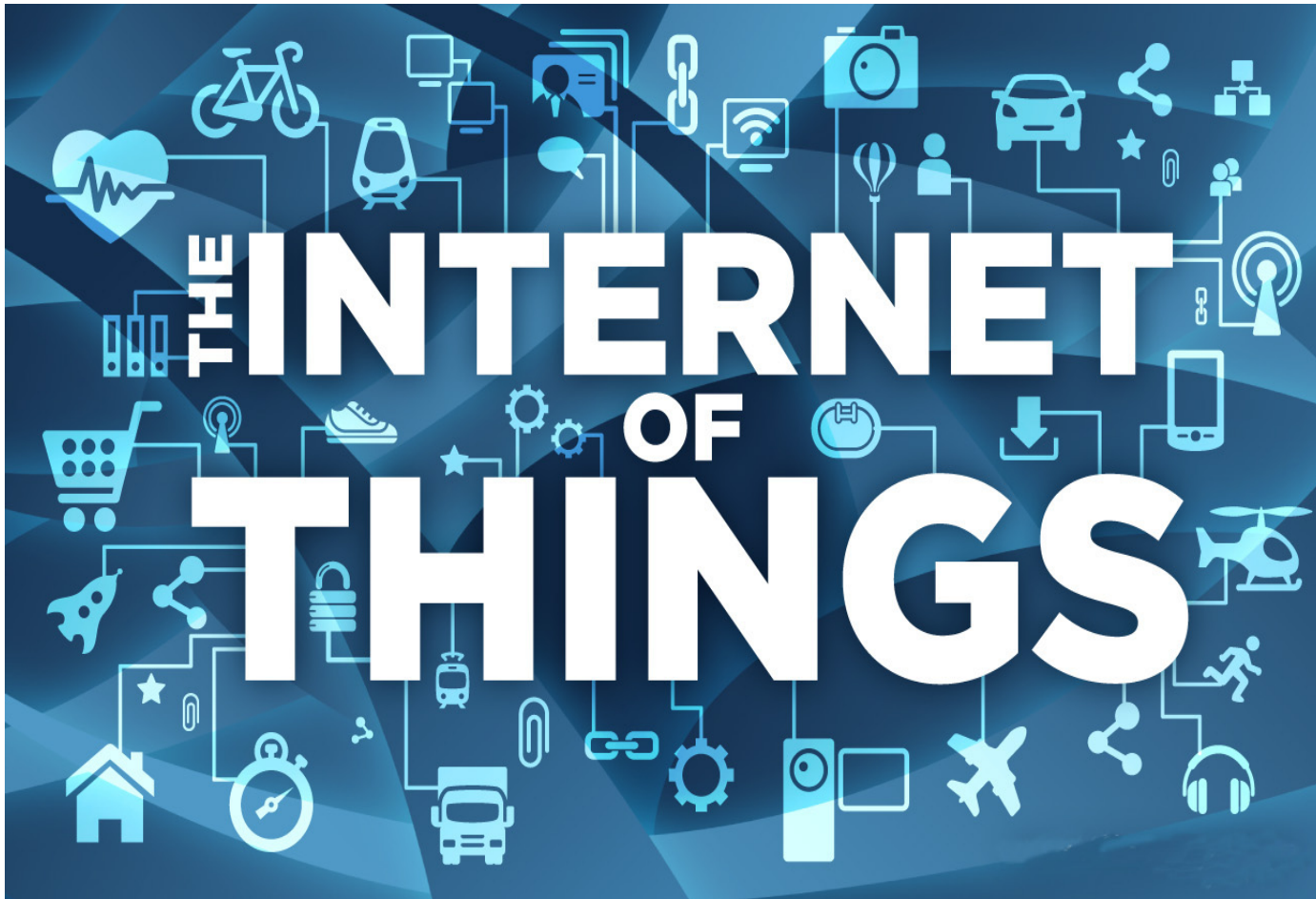


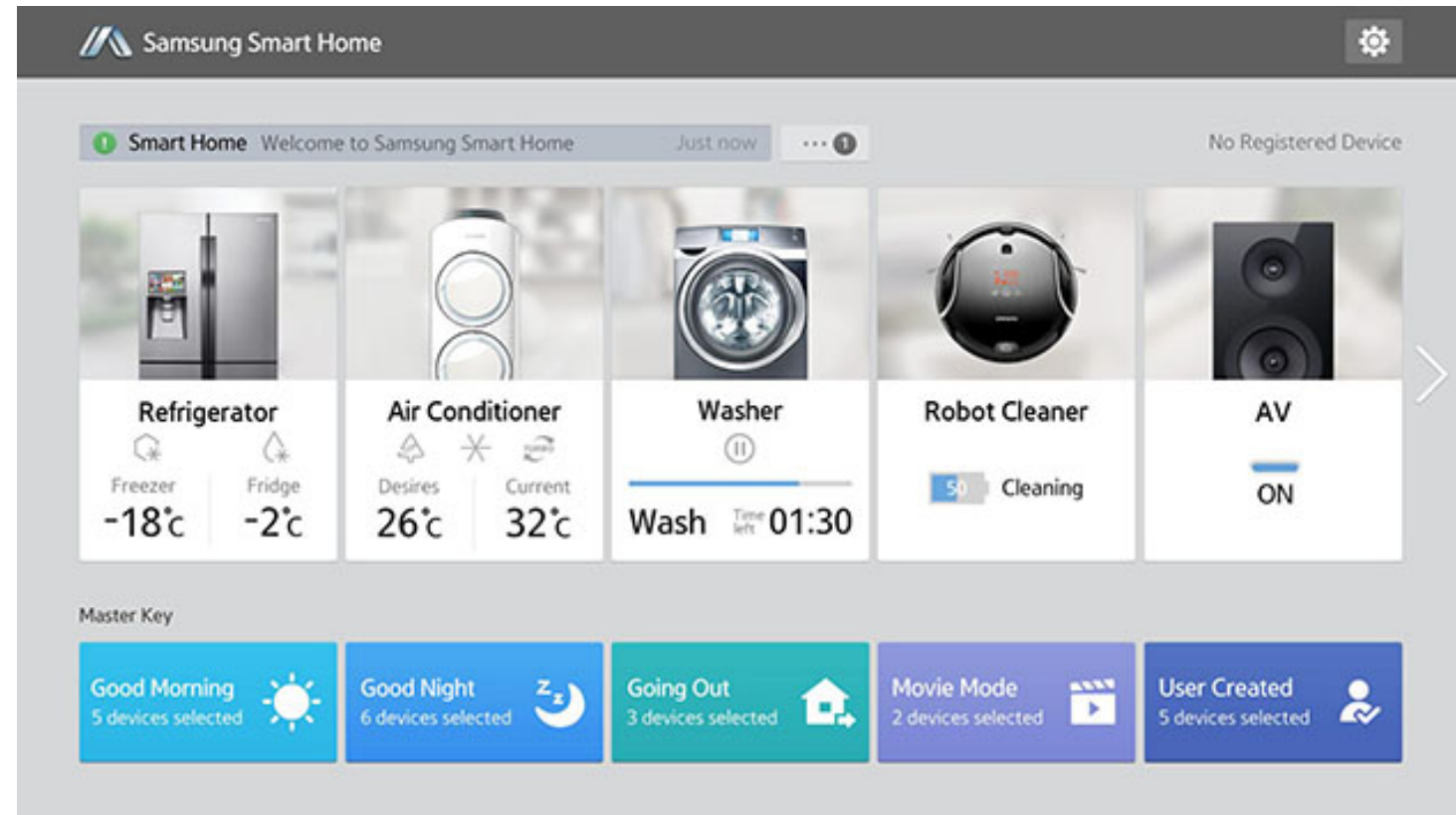
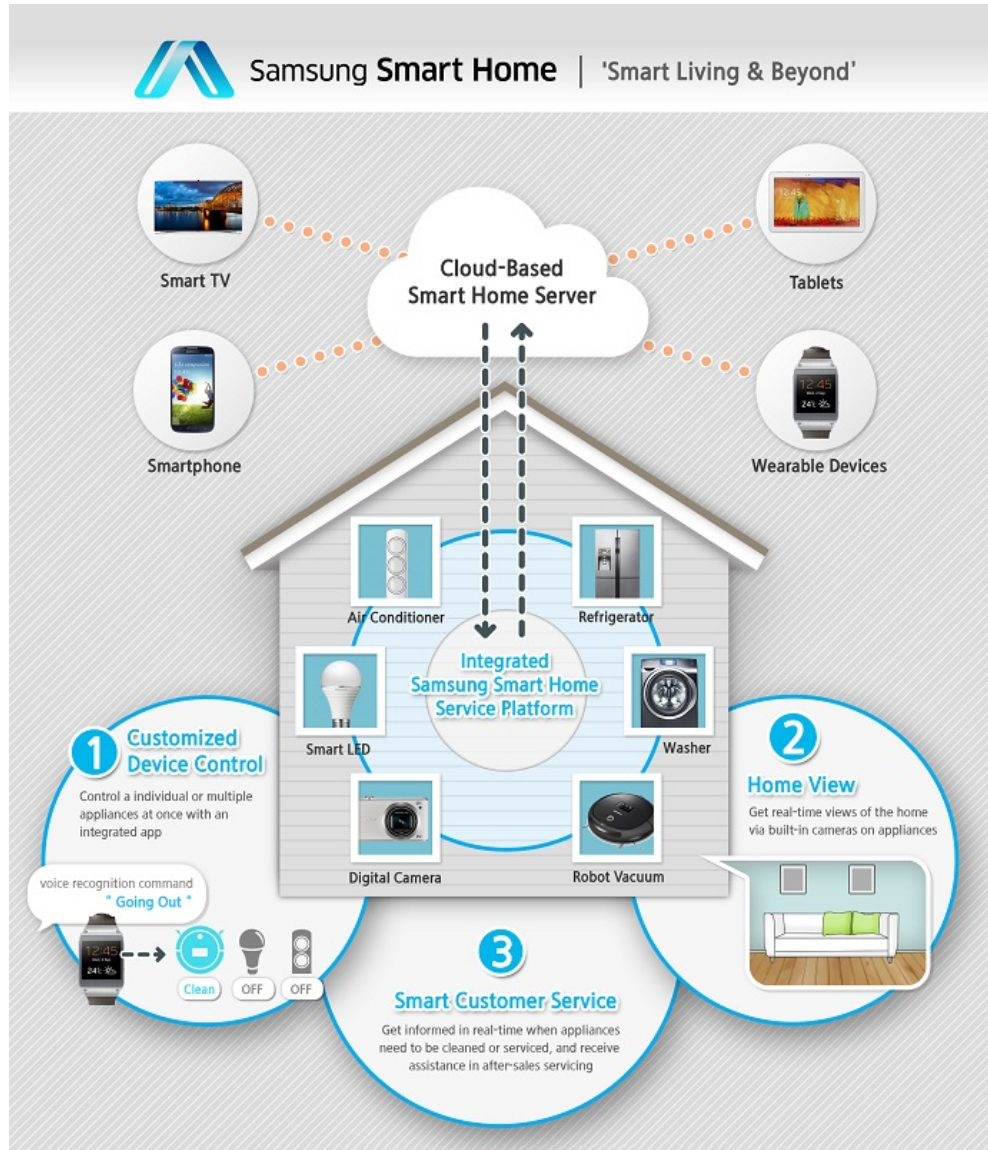
Light Estimation



IoT

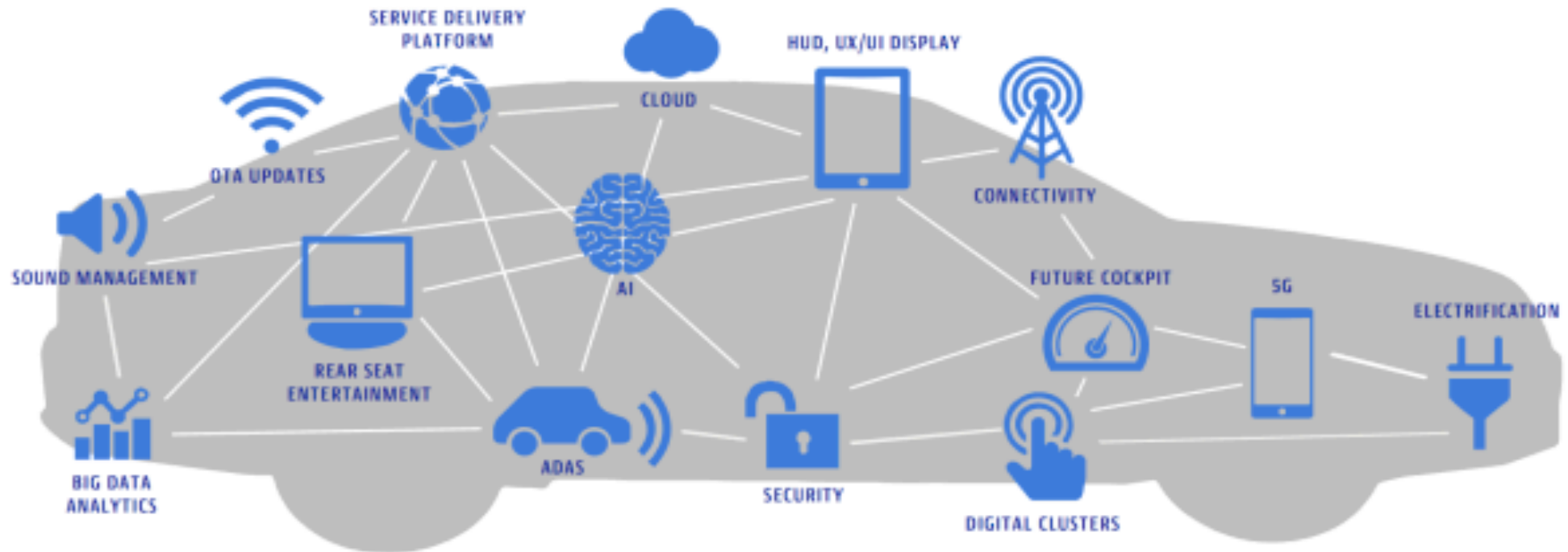
- 20 billion IoT enabled devices are available in the market
- Samsung enable 100% IoT ~ 2020

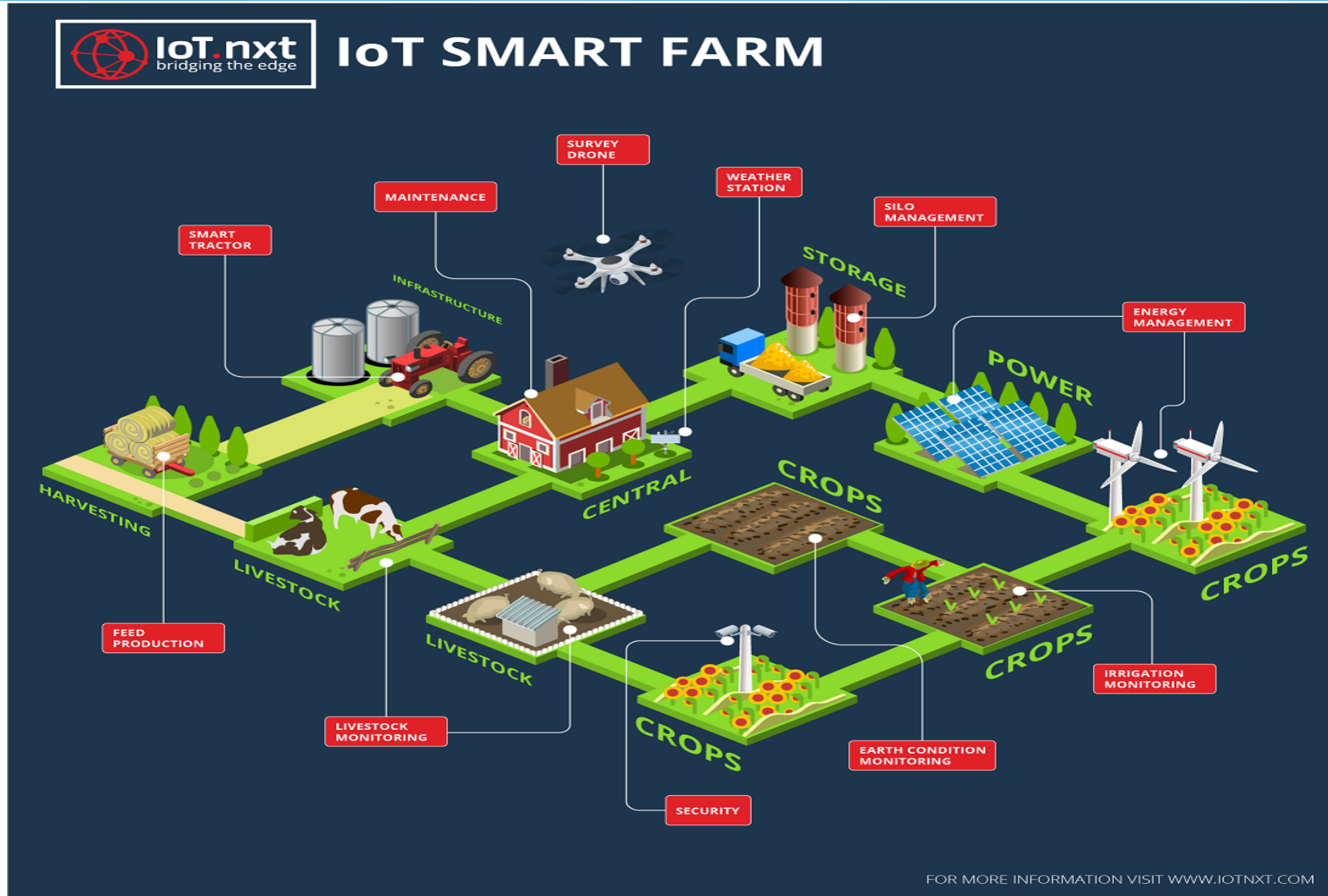


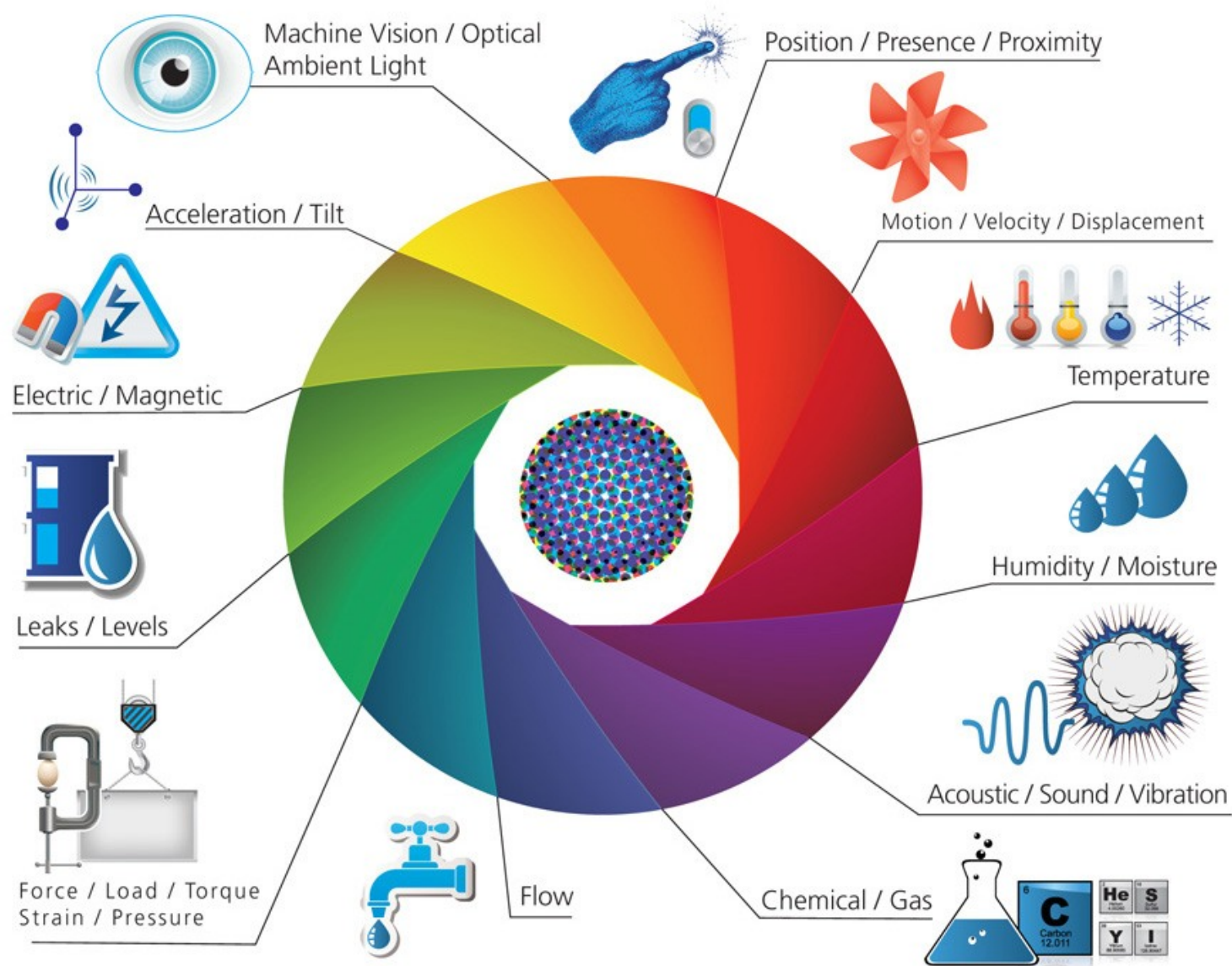


Smart Technologies Will Enable the Vehicle of Tomorrow

The combination of Samsung and HARMAN will empower OEMs to rapidly deploy connected car technologies and services







Thank you