

The logo for MPSoC'16, featuring a white line-art mountain range above the text "MPSoC'16" in white, all on a blue rectangular background.

MPSoC'16

The logo for Socionext, with the word "socionext" in a lowercase, sans-serif font, and the tagline "for better quality of experience" in a smaller font below it.

socionext™
for better quality of experience

SESSION 5: KEYNOTE

Linear vs Adhocracy Innovation in Imaging, Networking and Computing

Socionext Inc.

Amane Inoue

July, 12th 2016 @Nara in Japan

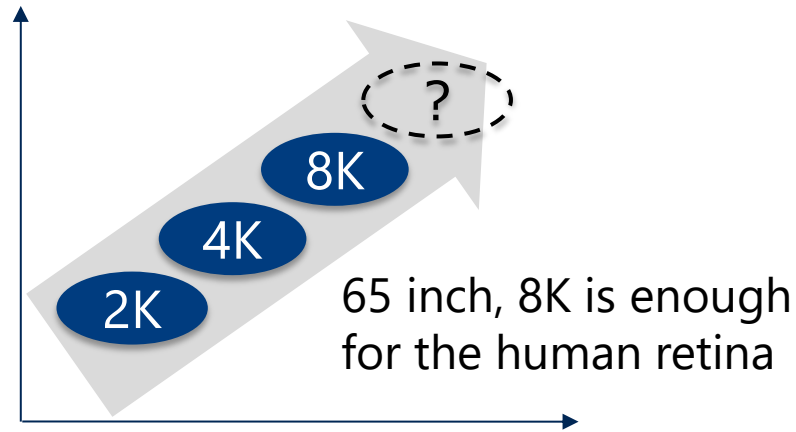
What is happening in the technology world

Linear / exponential progress in
technology is being forced to
an end

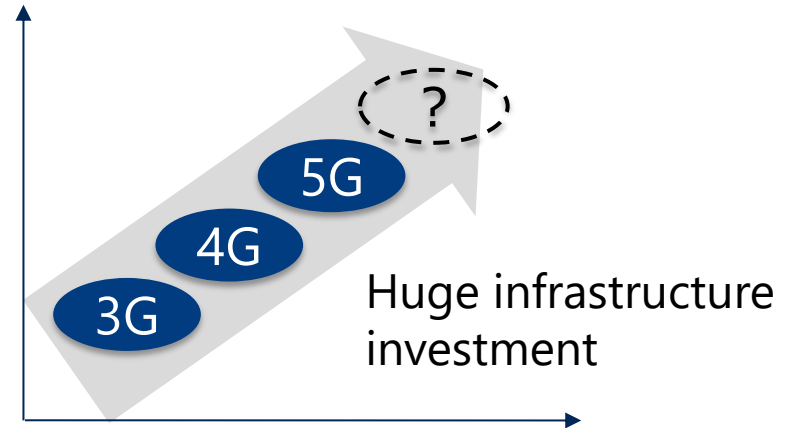
Limits of technology progress

Due to the ever-increasing cost, investment for linear progress of technology is no longer economically viable.

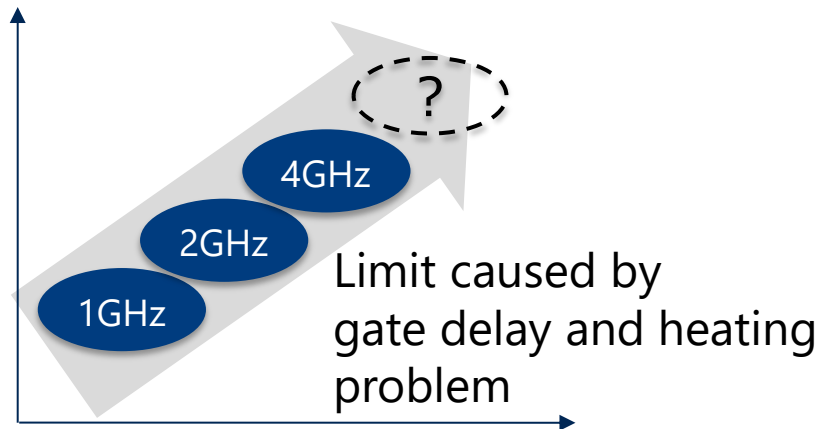
Display Resolution



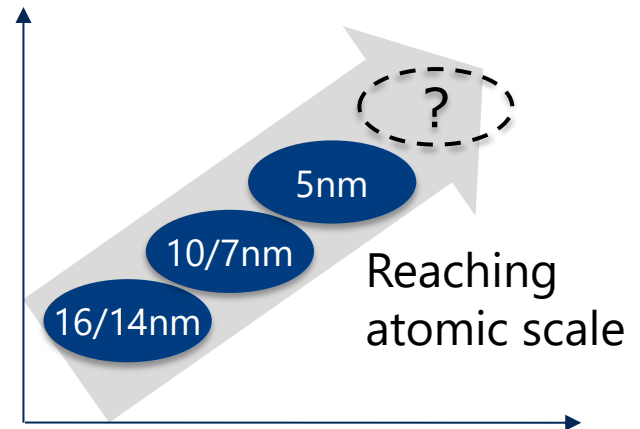
Data rate of mobile communication



CPU Clock



Moore's Law

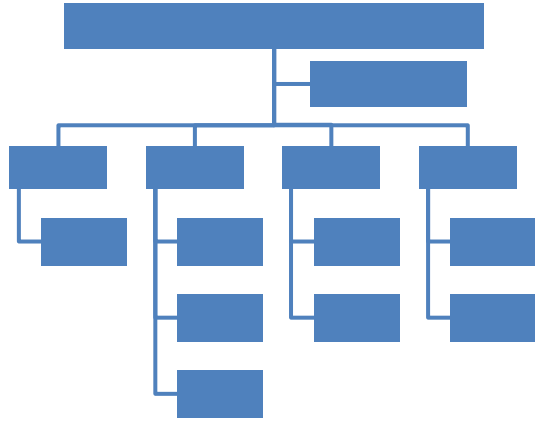


Beyond the end

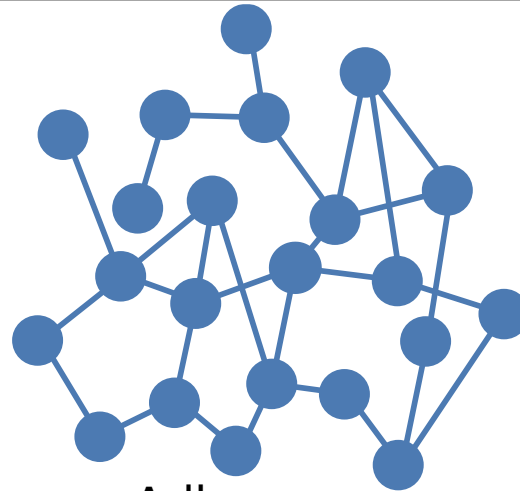
If the linear technology progress ended,
does the technology innovation end?

It does not.

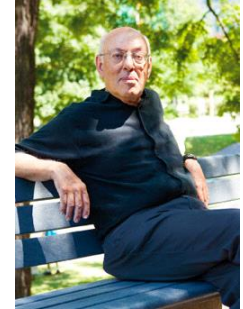
Linear Innovation vs Adhocracy Innovation



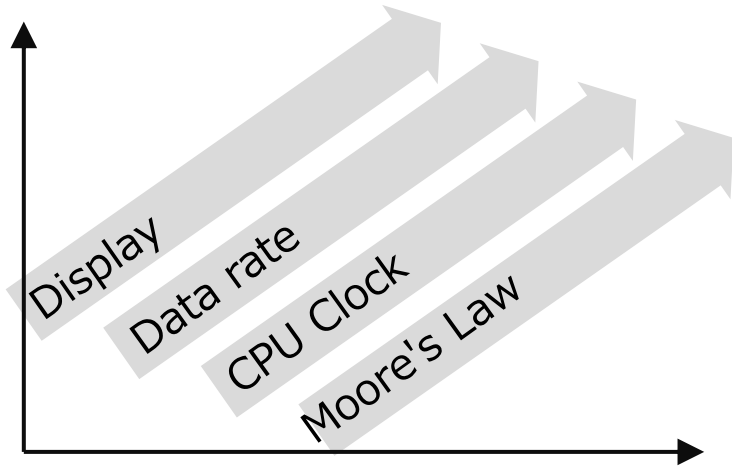
Bureaucracy



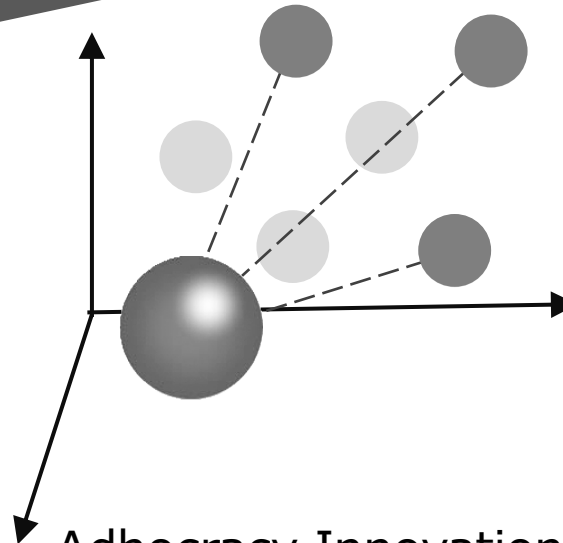
Adhocracy



Henry Mintzberg



Linear Innovation



Adhocracy Innovation



Henry Mintzberg and Amane Inoue

Linear vs Adhocracy Innovation

Super Hi-Vision



High Definition

Head Mount Display

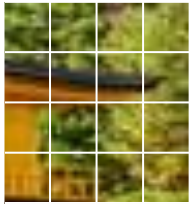


VR, AR, MR, All-around View

VS

Linear vs Adhocracy Innovation

High Resolution Capturing



over
50M pixels

Life Capturing



Action Camera



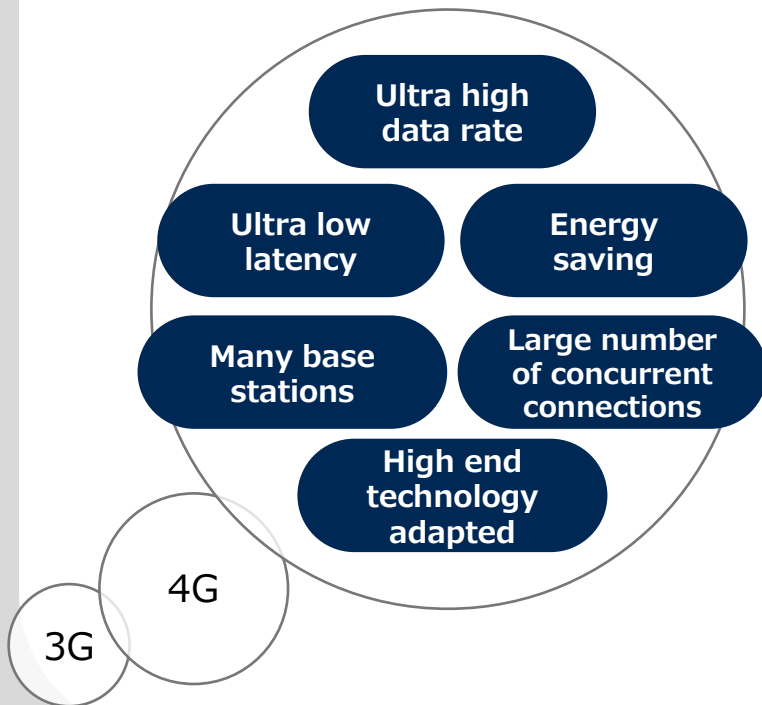
Drone

VS

Linear vs Adhocracy Innovation

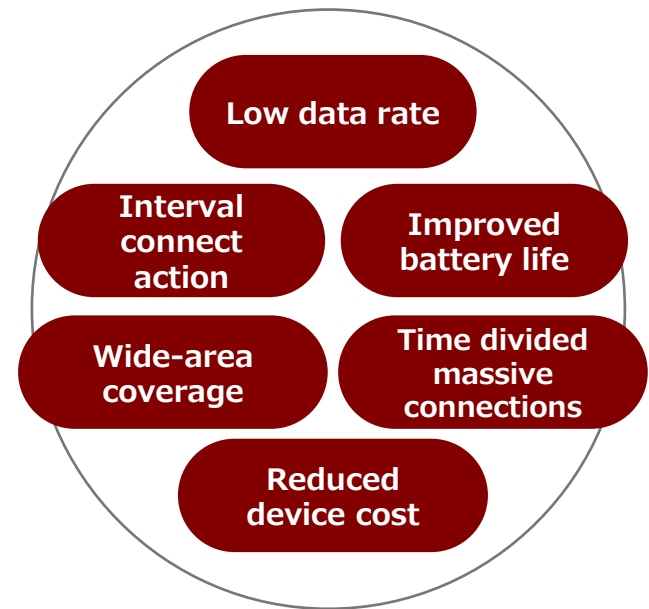
5th gen. mobile networks

5G



Narrow Band IoT

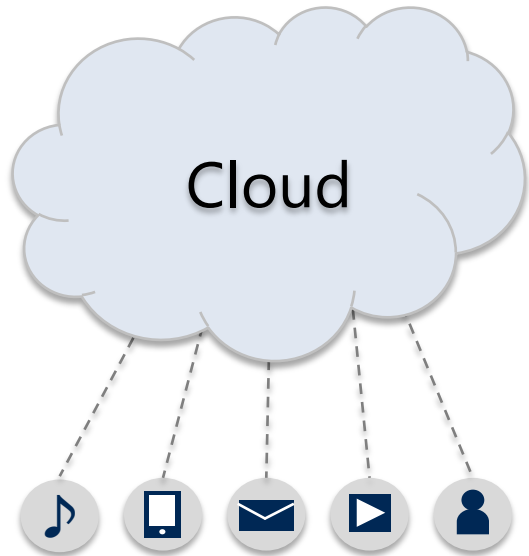
NB-IoT



VS

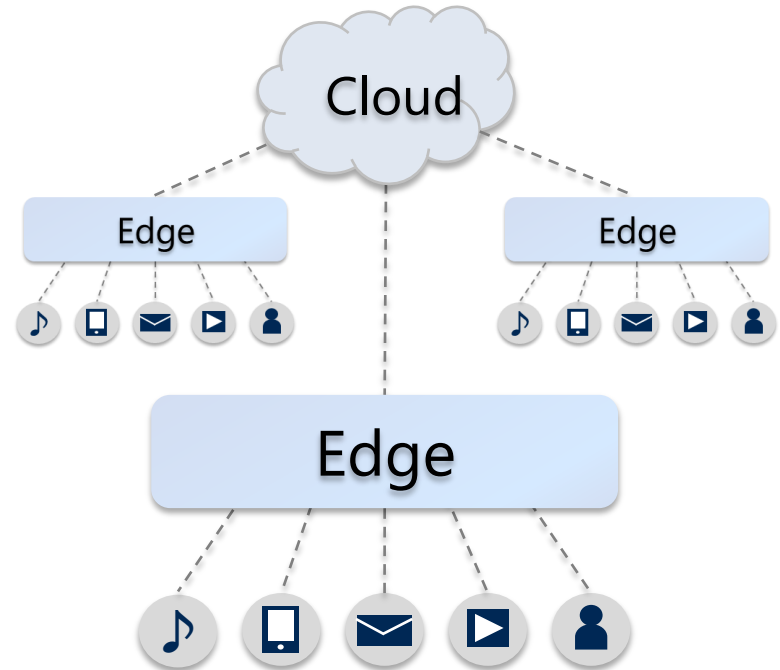
Linear vs Adhocracy Innovation

Cloud Computing



Centralized processing

Edge Computing



Distributed processing
Real-time processing
Privacy protection

VS

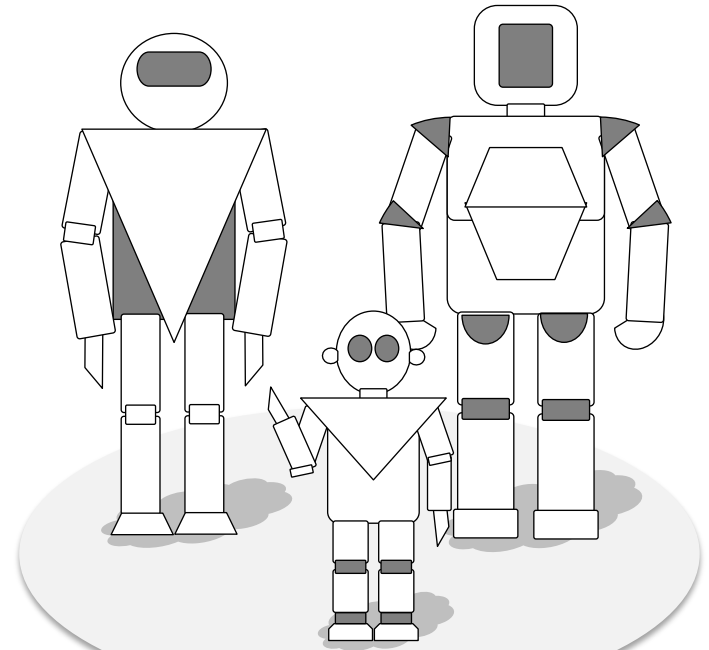
Linear vs Adhocracy Innovation

Conventional consumer electronics



developed gradually every year
within certain improvement

Robots



Robot has appeared
as a complete new product

VS

Linear vs Adhocracy Innovation

I am driving



Fuel consumption / Power system
Drivability

Autonomous driving



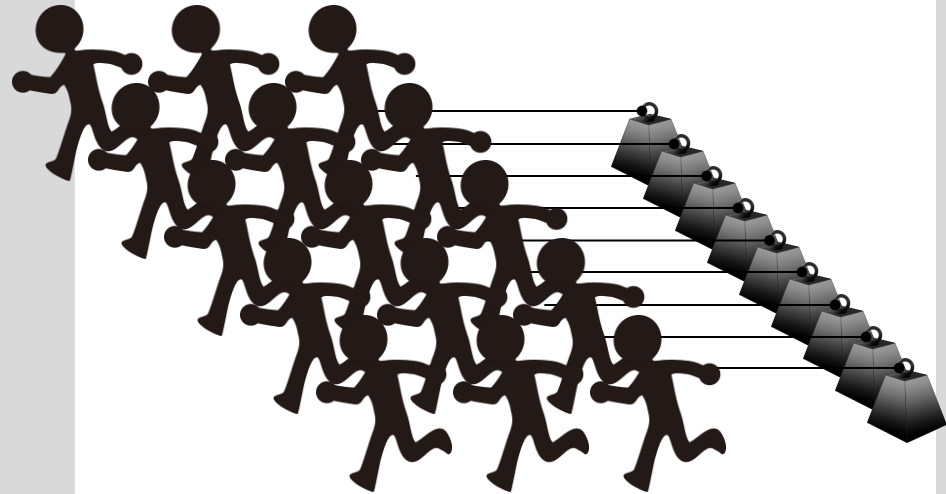
ADAS

Linear vs Adhocracy Innovation

Single core processing



Multi core processing



VS

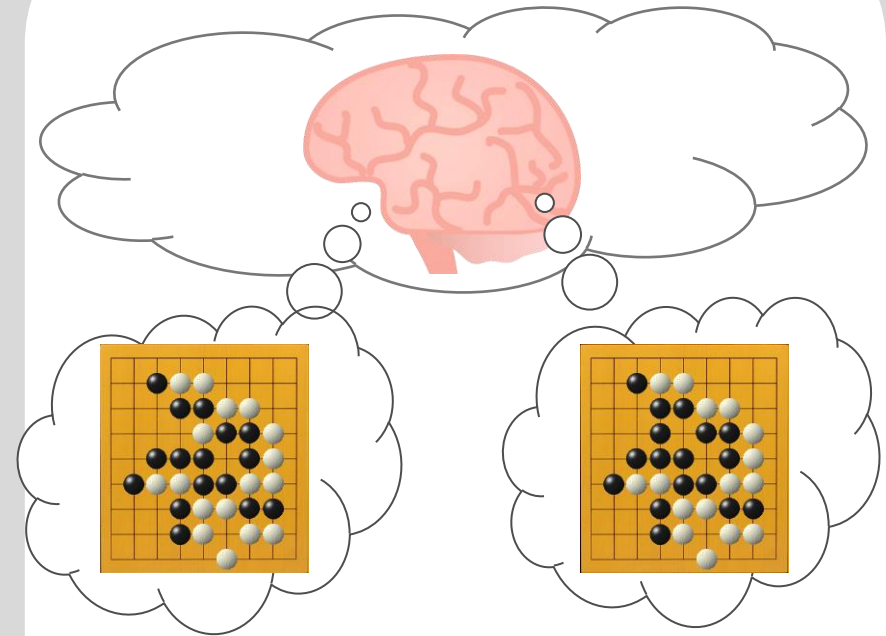
Linear vs Adhocracy Innovation

Super Computer



High Performance
CPU clock

AI



Brain Inspired Computing
Deep Learning
Nonparametric Bayes
Topological data analysis

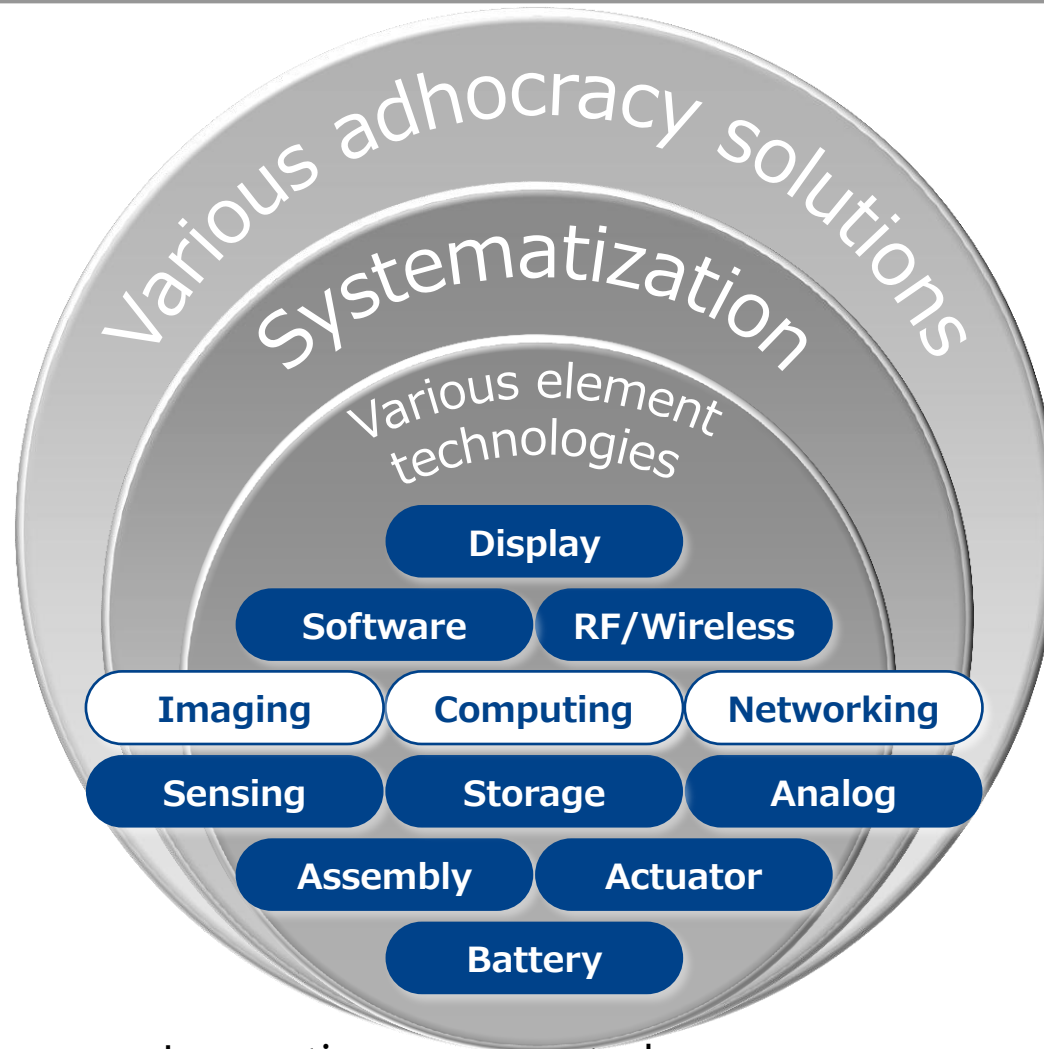
VS

Adhocracy Innovation

Linear innovation



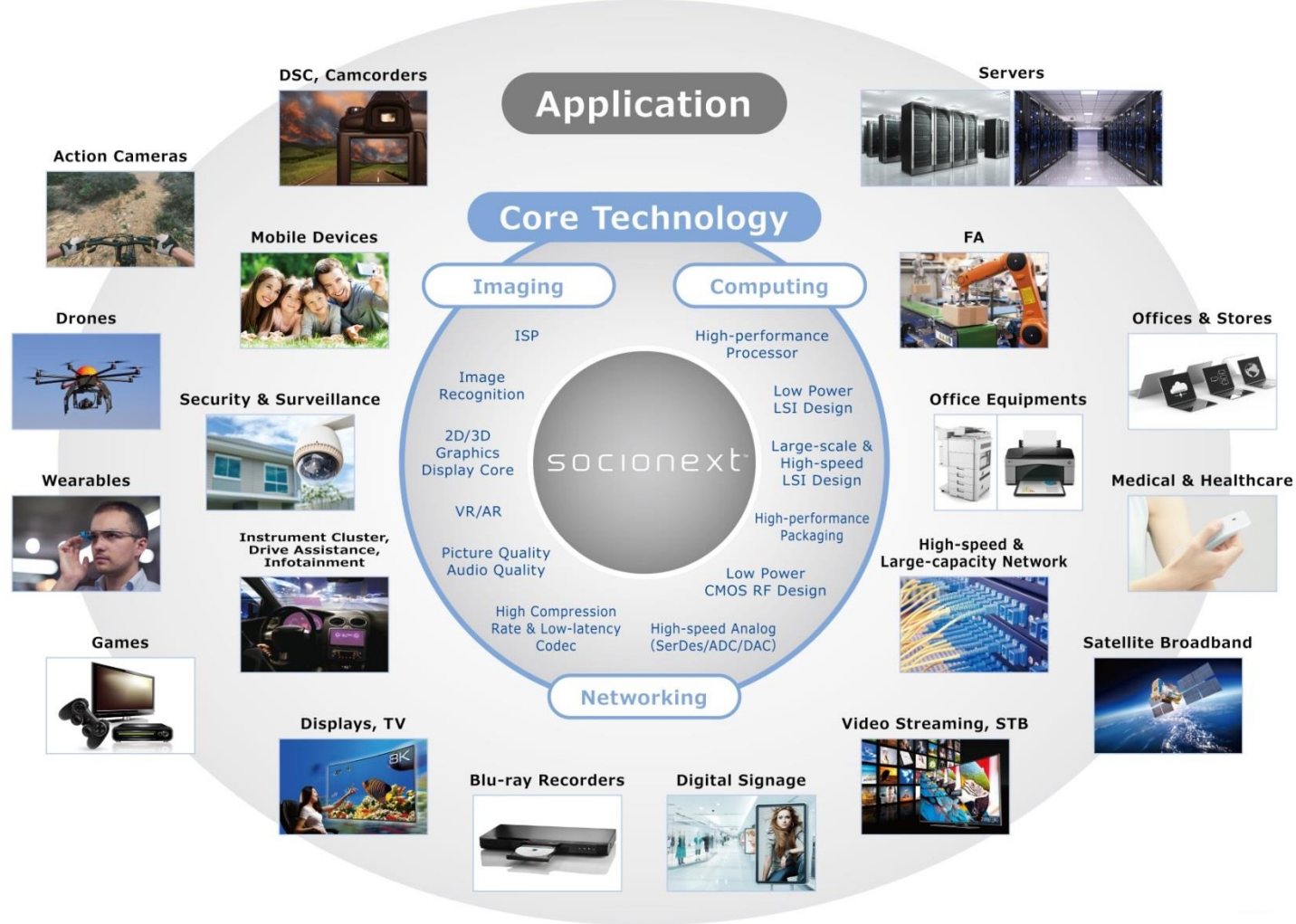
Adhocracy innovation



Variety of Adhocracy Innovations are created
from systemization of various element technologies under new ideas/conceptions.

Socionext's adhocracy innovation for better quality of experience

Socionext has strong technology about imaging, networking, computing as various technology element
We have developed them through linear innovation in past few decades.



Our vision is to create various "Adhocracy solution" by flexibly and creatively combining and systemizing our various technology elements for better quality of experience.

SOCIONEXT™

for better quality of experience