The U.S. Broadcast Technological Evolution

- **1940's**: Analog NTSC (Fixed)
- **2000's**: ATSC DTV (Digital but limited flexibility)
- **2020 +**: ATSC 3.0 (Fundamental technology shift)

- **Substantial benefits required**
The Road to ATSC 3.0

Planning 2010 - 2011

Requirements 2011 - 2013

Development 2012 - 2016

Completed Standard 2017-18 → …

Technical contributions from Korea, U.S., Canada, Europe, Japan, China
The ATSC 3.0 Suite of Standards was Released in January 2018

Next Gen TV Reaches Major Milestone with Release of ATSC 3.0 Standards

January 9, 2018, Las Vegas

LAS VEGAS--(BUSINESS WIRE)--Jan 9, 2018--The Advanced Television Systems Committee (ATSC) today commemorated the achievement of a major milestone in TV history, with final member votes being tallied for approval of remaining standards that together comprise the ATSC 3.0 suite of next-generation TV standards.
Bit Interleaving, Coding, and Modulation Performance

- Shannon Limit
- ATSC 3.0, QPSK
- ATSC 3.0, 16QAM
- ATSC 3.0, 64QAM
- ATSC 3.0, 256QAM
- ATSC 3.0, 1024QAM
- ATSC 3.0, 4096QAM
- ATSC 1.0

- Low Capacity, More Robust
- High Capacity, Less Robust
With UHD…Better Clarity
With HDR...Better Contrast

Standard Dynamic Range

High Dynamic Range
With Wide Color Gamut…
Better Colors
With IP...Better Connectivity

IP is the key to connectivity in the connected world

- ATSC 3.0 is the first broadcast standard based on Internet Protocol
- Hybrid broadcast/broadband services possible
Irish Soda Bread
with Whipped Stout Butter

Order