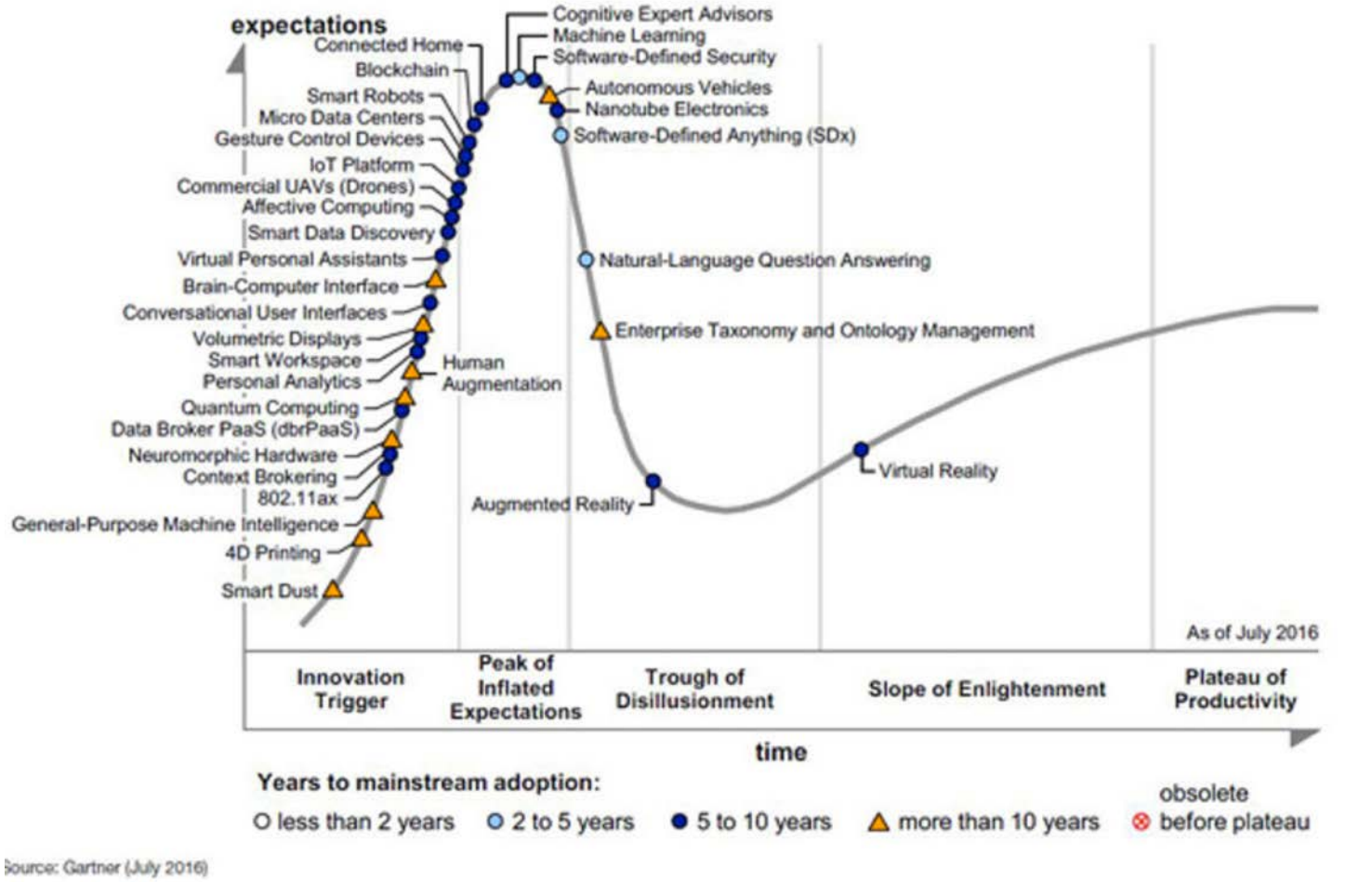

# Technology's continuing impact on video

Colin Dixon, Founder & Chief Analyst, nScreenMedia

colin@nscreenmedia.com | twitter: @nscreenmedia

# About technology adoption




Source: Gartner (July 2016)

Technology often falls far short of expectations

- 3D TV
- Feature phones
- Interactive TV

Some technology takes far longer to establish itself

- DVR
- Cable TV

# Agenda

Voice driven TV

Artificial Intelligence

5G

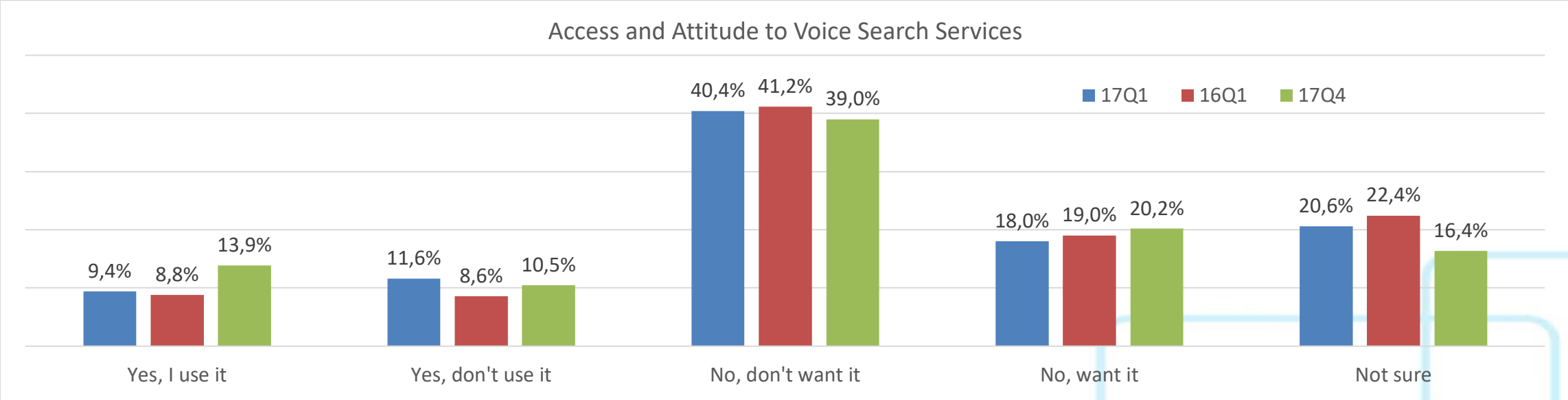
Blockchain





Photo by Ari He on Unsplash

# Voice video search – Users, trajectory




24% have access to voice search services

- Up from 19% Q1 2016
- Number with access that use growing
  - **Q1 2016 51% using**
  - **57% today**

59% don't have access

- two-thirds of those don't want it
- Same as in Q1 2016

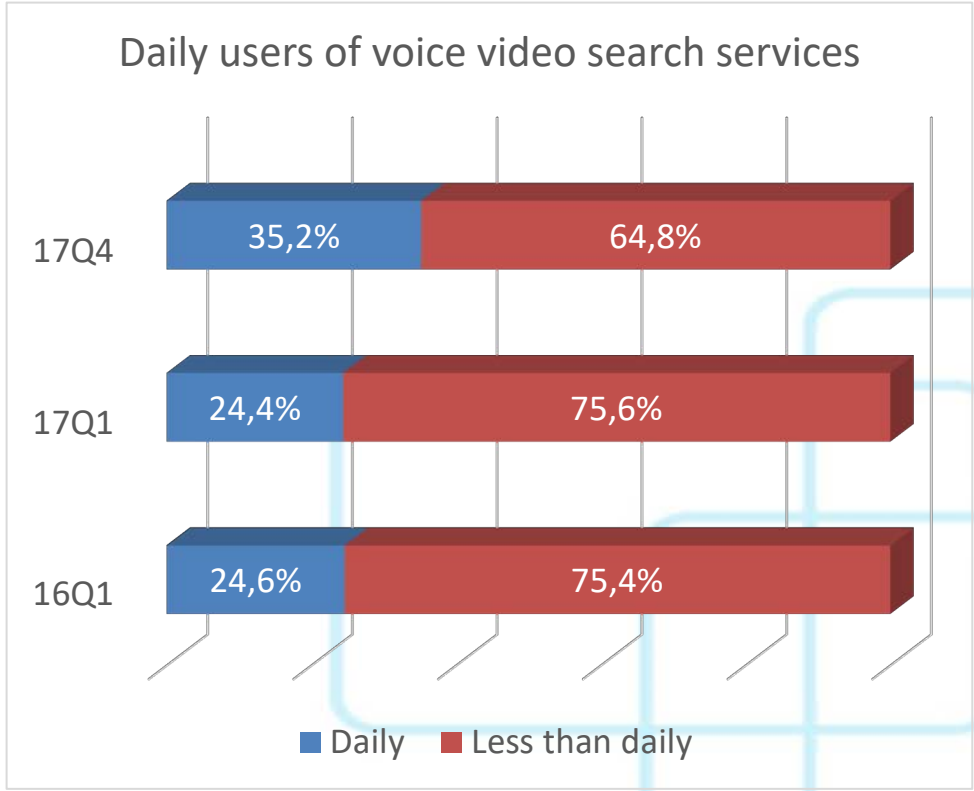
# Voice video search – Usage, trajectory

Of those with access to voice search technology:

Number of daily users of voice video search 35%

- Up 11% year-over-year

Number that are using it are using it more today than one year ago



Data suggests voice search is on a slow growth curve

Could take a decade or more for most people to be voice

Unless something can accelerate adoption

# What's wrong with voice and TV control?

The recognition technology seems to work very well

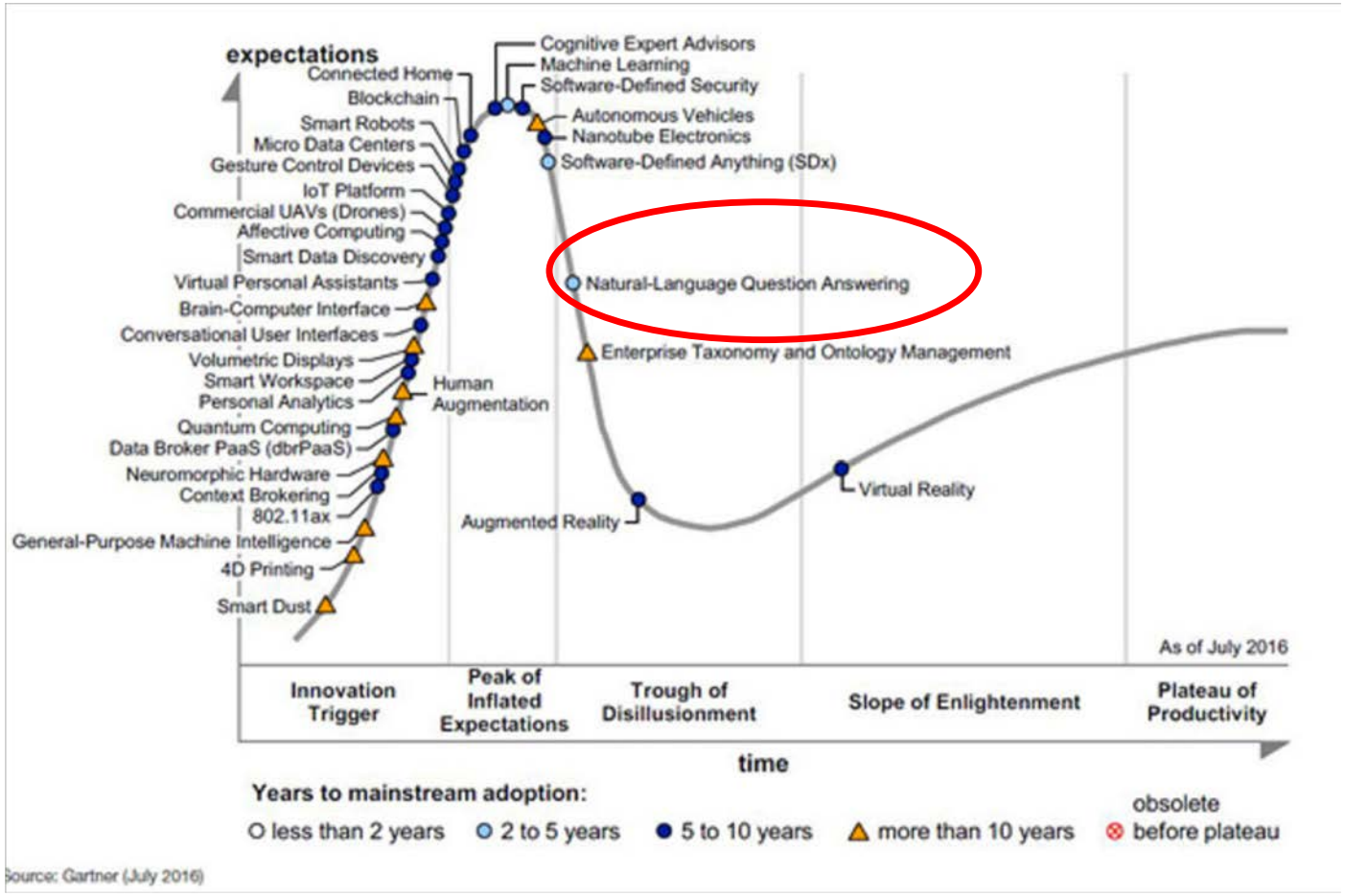
Consumers need to "learn" how to make the system understand what's needed

No real conversation going on
- Consumers expect natural language conversations
- No voice systems in media can carry on a conversation

Metadata is getting there

AI may help
- Liberate "dark data"
- Process masses of consumer data
- Learn what a consumer means over time

# Natural language processing on the adoption curve




Gartner expects systems capable of natural language conversations in 2 to 5 years

# Agenda

Voice driven TV

Artificial Intelligence

5G

Blockchain





Photo by Ari He on Unsplash

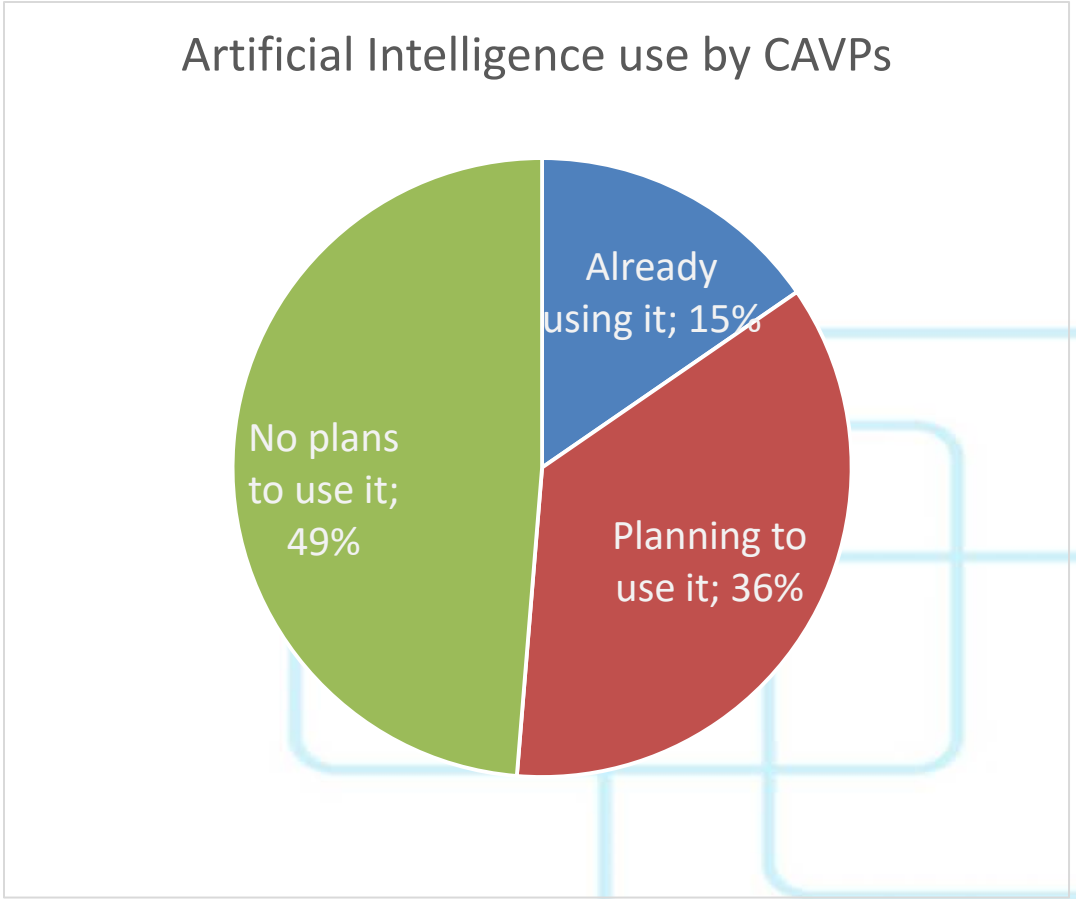
# Skepticism about artificial intelligence

Media executives are very skeptical about what AI can do for them

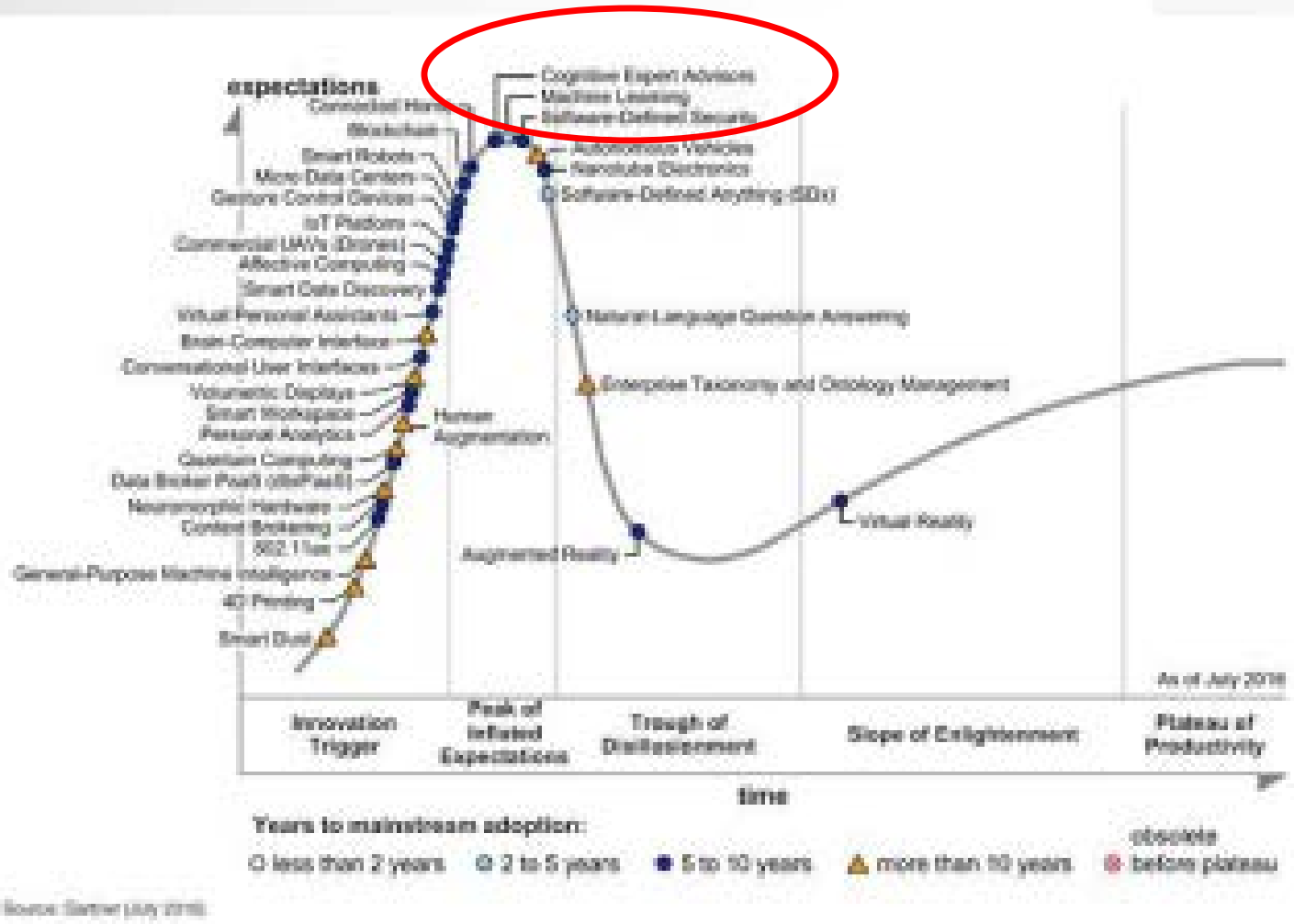
Half have no plans to use it

Just 15% say they are already using it in their video business

36% plan to use it in the future



# Natural language processing on the adoption curve




Gartner expects cognitive expert systems to take 5 to 10 years to before they enter mainstream adoption.

# Artificial Intelligence

Everybody talking about it at IBC 2018

- Some had real products

IBM touting Watson cloud services

- Liberating “dark data”

Offline and real-time processing of video for the following:

- The live broadcast feed
- Commentator excitement level
- Crowd excitement level
- Player facial expressions
- Other match data.


Leveraging data to automatically identify key moments in sports, movies, TV shows

# Thuuz using AI to build highlight reals


Thuuz sports

- Derives “excitement level” from real-time sports data
- Helps a consumer figure out best game to watch
- Personal “red zone”

Provides personal highlight reel

- Real-time analysis of sports events
- Deconstruct them into every meaningful play, possession, and sequence
- Combine those clips with other sports metadata to build personalized highlight reels
- Working with Watson media

# Zone TV

Using some aspects of AI to create personalized flow TV channels

- Delivering to cable companies like Comcast
- Channel appears in TV guide as usual

Working with Microsoft Cognitive services

zone·tv


How it works

- Active mode: Viewer likes or skips segments using the operator remote control
- Passive mode: If a viewer watches a complete segment, that is taken as a tacit “like”
- Cognitive services help process the data and modify the playlist
- Human programmers provide variety, new content

# Agenda

Voice driven TV

Artificial Intelligence

5G

Blockchain





Photo by Ari He on Unsplash

# 5G's promise

5G promise high speed, density

- Fixed wireless, 5G peak connection speeds up to 20 gigabytes/second, 20 times faster than 4G
- Real-world mobile applications are expected to deliver at least 100 Mbps, ten times faster than the typical 4G speed of 10 Mbps.
- Much higher density of devices, up to a thousand times more than 4G.

5G should alleviate many of the problems with mobile video streaming.

- Rebuffering, slow start times, and high abandonment rates should improve dramatically.
- With far more bandwidth available, data caps will be much higher allowing for much more video streaming.
- It should also help home broadband, bringing faster speeds and higher bandwidth caps to allow Ultra HD streaming.

# 5G's reality

Just at the beginning of the roll-out of the technology

- 5G standards not yet final
- Operators moving ahead anyway
  - **T-Mobile in the US has promised coverage in 30 cities by the end of 2018.**
  - **Others are taking a wait-and-see approach.**
- The UK started trials in 2018 but won't begin deployment until 2019 or later.
- Experts expect operators to hold deployments until standards ratified
  - **Might not happen until 2025.**

Early 5G mobile data plans liable to be expensive:

"In Europe and the US, operator strategies that are not built around 5G are rare. It strikes me however that it is bold to assume that consumers will take up 5G the moment it's available and that 5G will underpin the modern digital business from day one. The economics of providing 5G connectivity will make it difficult for mobile operators to drive costs low enough to make moving to 5G tempting for users." John Hayduk, COO of Tata Communications

Affordable, widely available 5G data service could be a decade away.

# Verizon Fixed Wireless service

- Service will be branded “Verizon 5G Home.”
- Available Oct. 1 in “parts” of Houston, Indianapolis, Los Angeles and Sacramento. Interested customers can sign up at **FirstOn5G.com** to become a “First On 5G” customer.
- Service is free for three months then $50 per month for customers with Verizon wireless service or $70 per month for those without. Taxes, fees, installation and equipment costs are included in that price, and customers can cancel service at any time.
- Customers “should expect typical network speeds around 300 Mbps and, depending on location, peak speeds of nearly 1 Gig, with no data caps,” Verizon said.
- The service is directly targeted at incumbent cable providers Comcast and Charter Communications in those cities: “Verizon 5G Home is ideal for consumers looking to ‘cut the cord’ or upgrade from their current cable service,” Verizon said.
- Verizon is offering three months of free YouTube TV and also either a free Apple TV 4K (which starts at a retail price of $180) or a free Google Chromecast Ultra (which starts at a retail price of $70) device at installation.
- Customers can purchase “new 5G mobile devices as soon as they hit the market,” Verizon said.
- Customers get “dedicated 5G expert representatives providing world-class support,” Verizon said.

# Agenda

Voice driven TV

Artificial Intelligence

5G

Blockchain





Photo by Ari He on Unsplash

# What is blockchain?

Blockchain is a distributed ledger of transactions, that securely transmits any type of information without the control of any central authority.

Provides proof of identity and enforces access rights

- Uses digital signatures and cryptography for security
- Guarantees entries in the ledger cannot be changed

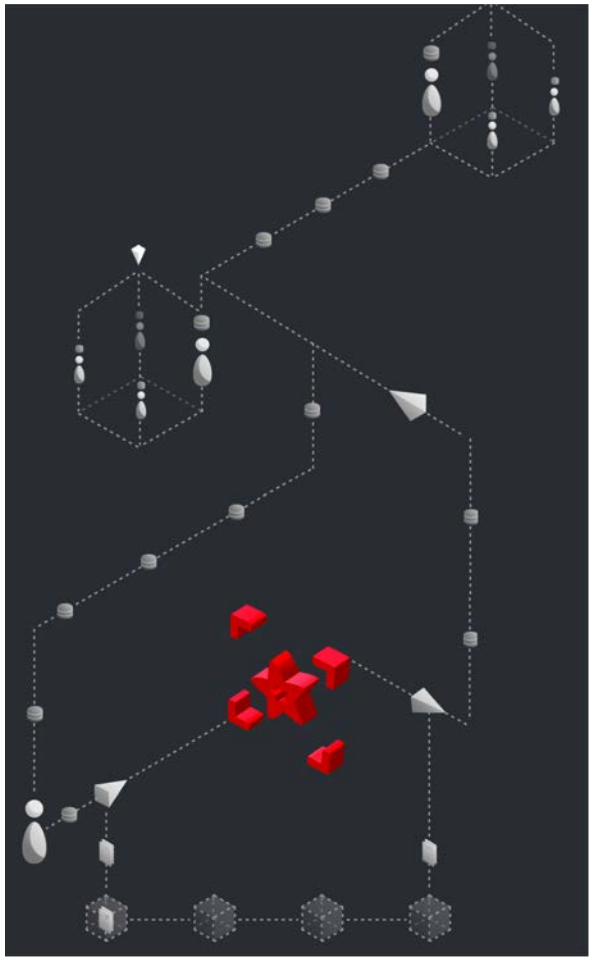
There are public and private blockchains

- Public – everyone can see everything
- Private – need to be given access

Smart contracts can be associated with assets on a blockchain ledger

- Enforce how the asset may be used

# How can blockchain be used in media?



How we consume video has changed radically over the last ten year
How video is bought and sold and tracked has not changed much
The video industry is ripe for disruption

In the management rights
- Verified record keeping and licensing and usage
- Royalty payments

In ad sales and accounting
- Track fees/charges by everyone in the ad supply chain
- Help reduce fraud and viewability

Opening up new business models
- Content resale

NSCREENMEDIA

# How is it being used

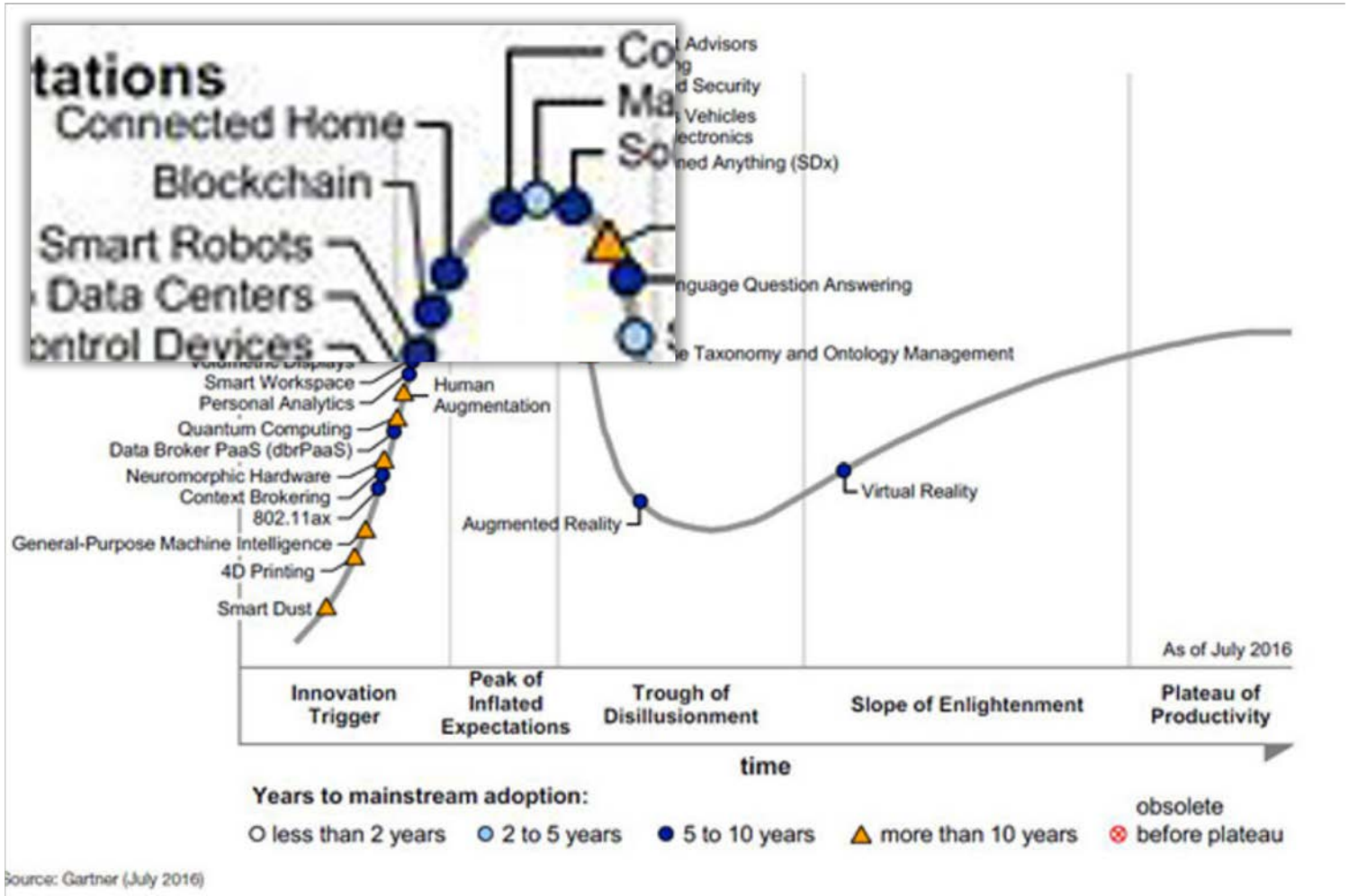
Very much in the experimental stage

Vevue – a content distribution platform based on blockchain
- *No Postage Necessary* first movie released with Vevue – July 2018

Littlstar – distributed content storage
- Secure storage and distribution of movies
- Based on ARA
  - **Peer-to-peer file system, blockchain stores license transactions**
- Originally designed for very large Virtual Reality Files

Comcast, Warner Music, etc. interested
- Investing in key companies
- In-house testing of some technologies

# Blockchain on the adoption curve




Source: Gartner (July 2016)

Blockchain at the peak of technology hype

Many people think it can be applied everywhere to everything

It will likely find uses in media eventually

# About nScreenMedia

nScreenMedia is a resource to the Digital Media Industry as it transitions to the new infrastructure for multi-screen delivery. Through a mix of informed opinion, news, information and research nScreenMedia helps you make sense of multi-screen media.

www.nscreenmedia.com

**Disclaimer**

We at nScreenMedia use rigorous methodologies in constructing and validating our research and opinions. Our collective knowledge includes information gathered from public and private sources, industry interviews and other research sources. Since the markets nScreenMedia covers are subject to rapid change, nScreenMedia is not responsible for loss caused by any errors, omissions, or misinterpretation of the contents. All information is provided “as is” with no warranty implied or expressed. nScreenMedia disclaims any liability to any individual or organization that has made business or investment decisions based on reliance on the contents of our research.