

Wireline & Wireless Telecom Services

A field guide for the 2024 CES – Rise of the machines

Industry Overview

Navigating CES January 8th to the 11th

We will be traveling to attend (again) this year's CES show, and experience has taught us preparation is key. To this end, we've combed through the show's offerings and pulled together this short guide intended to highlight areas of interest for telecom services and communications infrastructure investors at the event, and our preferred route through the show floor. Feel free to reach out at david.w.barden@bofa.com or 646-855-1320.

Connectivity in action

The CES show in our view is about seeing, first-hand, tangible devices and services that leverage the evolving high bandwidth connectivity the nation's communications service providers are making available. These devices and services are the gateway through which the dollar returns on capital investment will flow back to the network operators in our coverage universe.

Oy, its all about AI

In years past, one issue or another has come to dominate the CES conversation, be it regulatory issues or battling hardware/software standards. Do I have to say it? You already know what this year's hot topic is. It's artificial intelligence (AI). And AI's ramifications for consumer electronics and online experiences is all over CES 2024. In our unscientific perusal of the full 4-day CES show presentation schedule, there are roughly 265 sessions on offer. Of these almost 50 by our count feature AI in the title, or 18%. This is almost triple the next-most popular topic which is media and streaming which itself is in a near tie with the ever-popular automotive/self-driving cars.

Could 5G be the glue that binds consumer demand and AI?

Poor 5G gets just (generously) 4 related sessions and only 2 specific call outs (0.07%). Oh, how have the mighty fallen. On the one hand, 5G could be a cautionary tale. Once upon a time it was the darling of CES as it sat on the cusp of 'changing everything'. At that time, though, 5G was only an emerging platform, an enabler of future applications yet to be conceived but surely on the horizon. AI is already an application, and one that is enjoying astonishingly rapid adoption to boot. The use cases for 5G (connectivity) we have long sought may now be met by the many innovative uses for AI (compute). Maybe this is what it took all along. For connectivity to enjoy renewed pride of place, new necessities needed to emerge and if the proliferation of AI is the application, could 5G be the solution? We are intrigued!

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Field guide to the 2024 CES

We went to CES for the first time in 2006 with the goal of making the abstract concept of ‘connectivity’ tangible by inspecting new devices and services which were leveraging a growing abundance of bandwidth at the edge of the wireline and, eventually, wireless networks. We had a productive first visit and have returned each year to size up the pace and magnitude of innovation emerging from the fundamental underlying growth driver of the US telecom services business – connectivity – be it wireline or now, predominantly, wireless. This said, it is a gigantic conference spanning the whole of Las Vegas and upon one’s first arrival, standing in a 300-deep taxi queue at the airport, it becomes apparent very quickly that preparation is key.

Here, our short and sweet field guide is a brief summary of the themes we’re looking to explore, meetings we hope to attend that we believe are relevant to the sector, and the show floor locations we’re hoping to hit while we’re there.

In case you are looking to reach me at CES, I will be available via email at david.w.barden@bofa.com.

Key meetings and events at CES

Many of the keynote, panel, education sessions and one-off events that are being held at CES may well turn out to contain only tangential telecom services-related content. We’ve highlighted some of the potentially more relevant meetings in our view below. Some of these meetings are free to anyone with a CES badge while others require either 1) a more expensive ticket, 2) registration with one or another special track, or 3) registration as an ‘analyst’ within the definition used by CES.

Exhibit 1: Key sessions on our radar screen
Below are key sessions in the agenda beginning Monday, January 8th.

Day	Date	Start	Finish	Venue	Room	Event Title
Monday	1/8/2024	11:00	11:40	LVCC – West	W 232	How AI-Powered Strategies can Transform the Mobility Experience, presented by EY
		18:30	19:30	Venetian	Palazzo ballroom	Siemens keynote
Tuesday	1/9/2024	9:00	9:40	LVCC- North	N 258	5G - Fad or Future? A Look at the Promise and Reality
		10:00	10:40	LVCC - West	W 232	Generative AI
		10:00	10:40	LVCC - North	N 258	AI and Mobile Technology - Smarter Tech!
		16:00	16:40	LVCC - North	N 258	The Wide World of Drones
		16:00	16:40	LVCC - West	W 232	The Future of Smart Industrials, presented by KPMG
		9:00	9:40	Venetian	Lando 4302	Smart Mobility in 2024 and Beyond
Wednesday	1/10/2024	10:20	11:40	LVCC - North	N 262	"Conversation with a Commissioner" CES Edition
		13:00	13:40	LVCC – North	N 258	GenAI -- Lab to Real World
		14:00	15:00	Venetian	Palazzo ballroom	Qualcomm Keynote and Nasdaq Keynote
		14:20	15:20	LVCC - North	N 262	Accelerating Autonomy: The Race for Autonomous Vehicle Leadership
		9:00	9:40	LVCC - West	W 219	5G Broadcasting Direct to Mobile
Thursday	1/11/2024	9:00	9:40	LVCC - West	W 218	Investing in the Future: Is There Space in Your Portfolio?, presented by Euroconsult
		9:40	10:00	LVCC - West	W 218	Investing in the New Space Age, presented by Euroconsult
		10:00	10:40	LVCC - West	W 218	Satellite-direct-to-phone: Everywhere Connectivity from Space, presented by Euroconsult
		15:40	16:40	LVCC - North	N 258	Unlicensed Innovation - The Impact of Wi-Fi & Beyond on Daily Life



Navigating the show floor

By and large, the big names that telecom services investors will be interested in are all located at the Las Vegas Convention Center in the Center, North, and West Halls. We will likely skip the Westgate Hotel (mostly small tech companies) and the Venetian (typically invitation-only high-performance audio gear). Carriers don't participate on the show floor any longer and most of what is to be gleaned is the degree and momentum of technological development in wireless and wireline broadband gear and trends in consumption devices.

Take the buses from the hotels (learn where these pick up and drop off ahead of time) as it's usually better than waiting in the cab line. If using the monorail, buy several tickets ahead of time so you don't need to wait in the ticket-buying line in addition to waiting to take the train itself to the LVCC drop off at the Grand Lobby. From the Grand Lobby it is most productive to take a right and head south through the Central Hall through to the back, then go back to the Grand Lobby and make your way to the North Hall's category booths. Looking at the North Hall from the Grand Lobby, go right to left. At the end of North Hall you arrive at West Hall. Work your way through the West Hall and exit or circle back to the Central Plaza and visit Google and the likely assortment of self-driving BMWs and flying cars. Have a great conference!

Exhibit 2: Our planned route through the show floor
Below are the presentations we plan on visiting.

Enter at Grand Lobby, turn right into Central Hall	
LG Electronics	Booth: Central 16008
Metaverse/AR	Booth: Central 15045-17062
Samsung	Booth: Central 19608
Sony	Booth: Central 21800
Exit back to Grand Lobby	
Walk to North Hall	
Digital health	Product category booths
Smart cities	Product category booths
AI/robotics	Product category booths
Advanced mobility	Product category booths
IoT	Product category booths
Exit to West Hall	
Coming	Booth: West 3340
Amazon automotive	Booth: West 3901
Mobileye	Booth: West 4600
Qualcomm	Booth: West 4901
Exit	
Google	Tent: Central Plaza CP-1 (parking lot)
Enter at Grand Lobby, turn right into Central Hall	
LG Electronics	Booth: Central 16008

Source: Consumer Electronics Show Planner

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Investment rating	Total return expectation (within 12-month period of date of initial rating)	Ratings dispersion guidelines for coverage cluster ^{R1}
Buy	≥ 10%	≤ 70%
Neutral	≥ 0%	≤ 30%
Underperform	N/A	≥ 20%

^{R1} Ratings dispersions may vary from time to time where BofA Global Research believes it better reflects the investment prospects of stocks in a Coverage Cluster.

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