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**Serving the Consumer Electronics (CE)  
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# CES ENGINEERING

2007 International Consumer Electronics Show®

Jan. 8-11, 2007

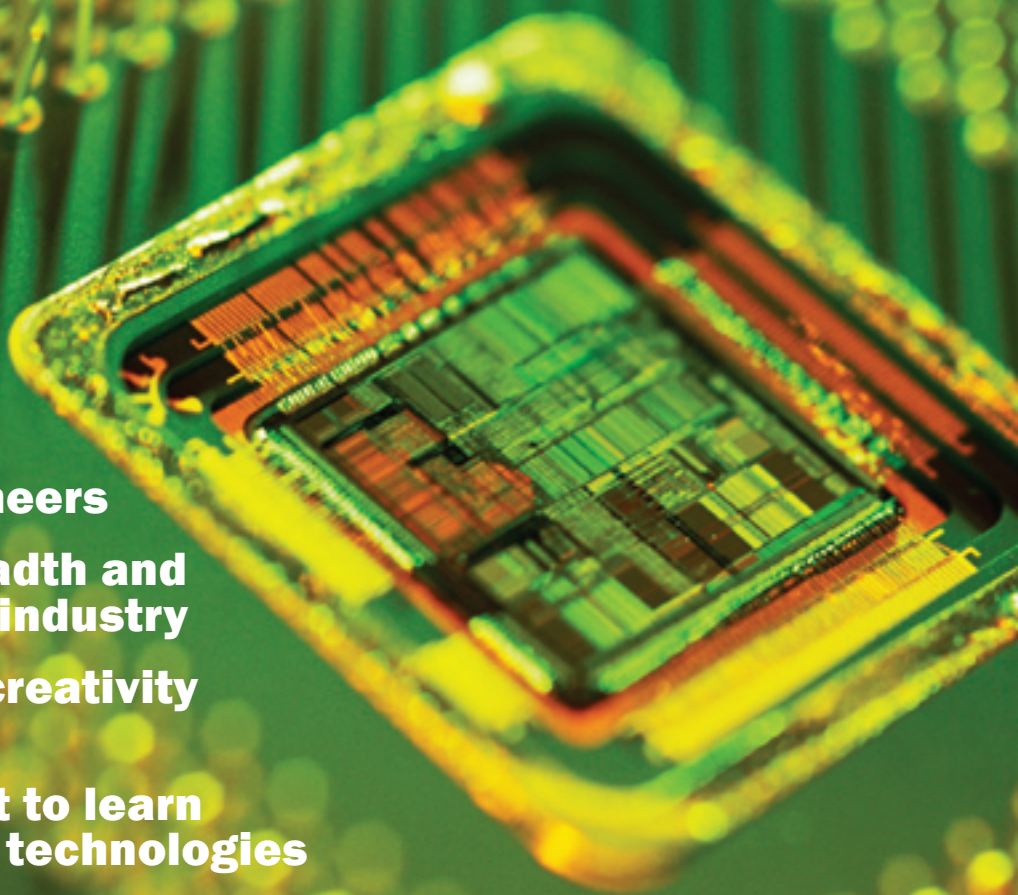
Las Vegas, Nevada, USA

## Discover What's New and What's Next

**CES is where your ideas  
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- **Join 6,000 engineers**
- **Explore the breadth and depth of the CE industry**
- **Stimulate your creativity with new ideas**
- **Become the first to learn about emerging technologies**



**2007 International Consumer Electronics Show (CES)**  
**January 8-11, 2007**  
**Las Vegas, Nevada, USA**



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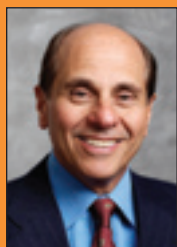
## Who's Who at CES

In 2007, for the first time, the prestigious CES keynote addresses will be presented at the spacious Palazzo Ballroom at The Venetian, attached to the Sands Expo and Convention Center. In addition, the CES Industry Insider Series will now be held at the Las Vegas Hilton. Make time to hear the following industry leaders expound on the converging world of IT, CE, communications and content at the 2007 International CES.

**Bill Gates, Chairman, Microsoft Corp.:** Gates returns to CES for his ninth pre-show keynote address. With the full attention of the consumer technology world, Gates has previously used the International CES to preview products and technology on the horizon for consumers, including the Xbox, Tablet PC and eBook.  
**When:** 6:30 p.m., Sunday, January 7, 2007  
**Where:** The Venetian, Palazzo Ballroom



**Ed Zander, Chairman and CEO, Motorola Inc.:** Since he assumed the position of chairman and CEO in January 2004, Zander has successfully reorganized Motorola, overseen the introduction of new products and sharpened Motorola's focus on innovation and operational efficiency. He joined the company with more than 25 years



of experience in the technology industry, including serving as the managing director of Silver Lake Partners and the president and COO of Sun Microsystems.  
**When:** 8:30 a.m., Monday, January 8, 2007  
**Where:** The Venetian, Palazzo Ballroom

**Olli-Pekka Kallasvuo, President and CEO, Nokia Corp.:** Under Kallasvuo's direction, Nokia has evolved into a world leader in mobile communications, connecting people together with content and technology. Kallasvuo was named president and CEO of Nokia Corp. in June 2006, after having held numerous roles at the organization since 1980. Nokia is a world leader in mobile communications, driving the growth and sustainability of the broader mobility industry.  
**When:** 11 a.m., Monday, January 8, 2007  
**Where:** Las Vegas Hilton Theater



**Robert Iger, President and CEO, The Walt Disney Co.:** In his previous role as president and COO of the Walt Disney Company, Iger helped oversee all aspects of the company's worldwide operations including its filmed entertainment, theme parks and resorts, media networks and consumer products businesses. He began his career at ABC in 1974 and became

president and CEO of The Walt Disney Company in March 2005  
**When:** 4:30 p.m., Monday, January 8, 2007  
**Where:** The Venetian, Palazzo Ballroom

**Michael Dell, Chairman, Dell Inc.:**

Michael Dell founded his company in 1984 with the then-revolutionary idea of building relationships directly with customers. This focus has positioned Dell to sell more systems globally than any other computer company. In 1992, Dell became the youngest CEO ever of a company to earn a ranking on the Fortune 500.  
**When:** 9 a.m., Tuesday, January 9, 2007  
**Where:** The Venetian, Palazzo Ballroom



**John Chambers, President and CEO, Cisco Systems:**

Chambers was named president and CEO of Cisco Systems in 1995. Under his leadership, the company has grown from \$1.2 billion in revenues to approximately \$28.5 billion and more than 49,000 employees. Cisco is a worldwide leader in networking for the Internet. Through its groundbreaking innovations in networking technologies and the acquisitions of Linksys and Scientific Atlanta, Cisco continues to help shape and build today's connected life.  
**When:** 11 a.m., Tuesday, January 9, 2007  
**Where:** Las Vegas Hilton Theater

## Setting CE Standards Year Round

As the leading standards-setting body for the CE industry, Consumer Electronics Association® (CEA®), producer of the International CES, is committed to supporting the engineering community. Through more than 70 committees, subcommittees and working groups, the CEA Technology & Standards Program fosters a unique and efficient forum to develop a unified technology roadmap that helps technology manufacturers grow the industry.

Accredited by the American National Standards Institute (ANSI), CEA has

completed three dozen standards in the past two years, including new standards and testing for digital radio, DTV, V-chip, DVD, audio amplifiers, audio books, MP3 players, cellular phone car kits and home networking.

In addition to CES, CEA sponsors several other conference events that are important to advancing standards in consumer electronics. In fall 2007, for the first time, the Fall Technology & Standards Forum will be co-located with CEA's Industry



Forum. CEA PlugFests help designers sort out connectivity issues between different manufacturers. Additionally, the CEA Washington Forum is the premier venue for spectrum policy, bringing together engineers, politicians and content providers in a public discussion about the respective hurdles each group encounters on the route to innovation.

Visit **[www.CE.org/standards](http://www.CE.org/standards)** for information about all CEA standards work or to purchase a document.

# CES — Where Engineers Discover What's New and What's Next

By Gary Shapiro, President and CEO, Consumer Electronics Association (CEA)



One of the fastest growing groups of attendees at CES every year is the worldwide engineering community. In 2006, the number of engineers in attendance increased by over 30 percent from the previous year, and with an expanded number of relevant conferences, keynotes, awards ceremonies and new technology pavilions in 2007, we are expecting the number to grow even further at this year's show.

Why are so many engineers — many from around the globe — making CES a must-attend event on their busy convention calendar?

For the engineering community, the International CES is where their technology comes to life. Products and technologies that they have been working on in their research labs for many years have been given commercial lift-off and are ready to stand the test of consumer acceptance.

CES also provides engineers with numerous opportunities to enhance their knowledge of the latest advancements in consumer technology. It is a top networking opportunity for engineers to interact with other key players in the technology industry. And with more than 20 TechZones — CES is not only about 'what's new' but also about 'what's next.'

Year-round CEA, the producer of CES, works closely with members of the engineering community to lead the development of standards and technical specifications for new products entering the market and encouraging interoperability with existing devices.

CES is proud to spotlight the many contributions the engineering community makes to the world of consumer electronics. This edition of *CES Engineering* outlines the specific programs of interest to engineers at the 2007 International CES. We encourage each of you to join other members of the world engineering community, product developers and original equipment manufacturers who will be attending CES.

The thousands of technology creators in attendance deserve much of the credit for the many innovations that are on display. On behalf of the entire consumer electronics industry, thank you for your tireless contributions to the growth of our industry. I look forward to meeting you in Las Vegas in January.

## The 2007 International CES Fact Sheet

**Exhibit Dates:** January 8-11, 2007

**IEEE Event:** International Conference on Consumer Electronics (ICCE)

**Conference Dates:** January 10-14, 2007

**Location:** Sands Expo and Convention Center/The Venetian, Las Vegas Convention Center, Las Vegas Hilton; Las Vegas, Nevada

**# of CES Conferences:** More than 175 conference sessions, featuring 300 speakers

**CES Attendance:** More than 140,000 attendees from 130 countries

**CES Exhibitors:** 2,700 exhibitors covering more than 1.6 million net square feet of exhibit space

**# of Engineer Attendees:** 6,000

**Higher-Education Attendees:** 450 schools and universities

**About CEA:** The Consumer Electronics Association (CEA), the producer of the International CES, unites more than 2,100 companies within the U.S. consumer technology industry, with the mission of growing the consumer electronics industry.

**For more information visit [www.CESweb.org](http://www.CESweb.org).**

## What's New At CES?

Be among the first to see what the rest of the world will discover next in a series of CES TechZones located throughout the Sands Expo and Convention Center/The Venetian and the Las Vegas Convention Center, focusing on:

- Robotics
- Wireless USB
- Bluetooth
- HDMI
- Portable audio
- Blu-ray and HD-DVD
- Ultrawideband technology
- Home recording studios
- ZigBee wireless
- IPTV hardware/software
- Consumer VoIP
- Digital Car/Telematics

CES Conference Programs of particular relevance to engineers include:

- Get Ready for the End of Analog TV
- Society of Automotive Engineers Panel
- Robotics Development Program
- RFID and the CE Supply Chain

Furthermore, CES is also the site of several prestigious engineering awards programs. The popular Innovations 2007 Design and Engineering Awards honors outstanding design and engineering in consumer electronics and is sponsored by CEA and endorsed by the Industrial Designers Society of America (IDSA).

Additionally, for the first time this year, the prestigious Technology & Engineering Emmy® Awards will be presented at CES. The awards honor achievements in two areas: Science & Technology for Television, which includes broadcast, cable and satellite distribution, and secondly, Advanced Media Technology encompassing interactive television, gaming technology, and for the first time, the Internet, cellular phones, private networks and personal media players.

**For more information, email: [events@emmyonline.tv](mailto:events@emmyonline.tv).**



**Personal  
Planner**

With 2,700 exhibitors stretching over more than 1.6 million net square feet of exhibit space and only four days to experience it all, maximizing your time at CES is essential. Once registered, take advantage of the free MyCES Personal Planner to create a personalized show agenda. MyCES lets you connect online — before the show — with the exhibitors, products and engineering conference sessions that are of interest to you. **Visit [www.CESweb.org/MyCES](http://www.CESweb.org/MyCES) to learn more.**



## IEEE: International Conference on Consumer Electronics (ICCE) at CES



Featuring speakers and attendees from around the world, the International Conference on Consumer Electronics "ICCE" is an annual event sponsored by the IEEE Consumer Electronics Society. Every critical area in consumer electronics (CE) is represented via technical papers, tutorials, keynote lectures and panel discussions. This year, for the convenience of the engineering community, ICCE is again being co-located at CES and is scheduled to overlap only with the last few days of the show, providing ample time for attendees to explore the many other conferences and exhibits earlier that week at CES.

**Who:** ICCE is produced by the Consumer Electronics Society (CE Society), an organization within the IEEE that strives for the advancement of the theory and practice of electronic engineering in the field of consumer electronics.

**Where:** Las Vegas Convention Center, North Hall

**When:** January 10-11, 2007 (Tutorials); January 12-14, 2007 (Conference)

**What:** Technical sessions and paper presentations include the following subject areas:

**Home Entertainment:** Home Gateway, DTV, DVB, Home Theater, PVR, Interconnects, Game Systems, Interactive and Direct Programming, Internet Integration, Advanced DVD and CD, Displays including HDTV and Flat Panel

**Mobile Computing and Communication:** Mobile Broadband, DVB-H, Handheld & Wearable Computers, Personal Multimedia Devices, Next Generation Cellular, AV Streaming to Handheld Devices

**A/V Technology:** Still & Video Cameras, Analog and Digital Audio, DMD, 3D Video, Recording, Storage, Compression, Transcoding, Applied Signal Processing, Content Indexing, Networked A/V

**A/V RF and Wireless**  
Antennas, Smart Antennas, Equalization, Diversity Reception, Spectrum Usage, UWB, Software Radio, Wireless LAN, 802.11 Standards, Bluetooth

**Consumer Networks:** Wired & Wireless Multimedia, QoS, Security, Peer-to-Peer, Internet Appliances, Home Control, Bridges, Interoperability, Application Control, Home Architecture, IP-TV

**Automotive Entertainment and Information:** Navigation, A/V Systems, Driver Assistance, Networks, Communication Aspects, Sensors and Control

**Security and Rights Management:** Copy and Redistribution Protection, Payments, Trusted Computing, Parental Controls, Legal and Regulatory Issues, Data Collection, Biometrics, Privacy, Encryption

**Enabling Technology:** Advanced Semiconductors, Algorithms, O/S, Development Tools, Test Equipment, Advanced Displays, Power and Batteries, Smart Fuel Cells, Standards, Intellectual Property, Cost Reduction, Compliance Testing, Human-Computer Interface, Special-Needs/Assistive Technology

**For more information, visit [www.icce.org/conference\\_program/schedule07.htm](http://www.icce.org/conference_program/schedule07.htm)**

## Engineering Checklist:

Ten reasons engineers should attend CES in 2007:

- ✓ Experience the latest engineering trends firsthand
- ✓ Research and evaluate new products and applications
- ✓ Gain insight from industry leaders
- ✓ Check out the competition
- ✓ Experience TechZones that will jumpstart new industry growth
- ✓ Attend IEEE's International Conference on Consumer Electronics
- ✓ Select from more than 175 conference sessions and 300 speakers
- ✓ Share ideas with 6,000 other engineers
- ✓ Celebrate your company's innovation before a world audience
- ✓ **Identify your next BIG idea!**

## See It First at CES

For 40 years, CES has been where the world's engineering community goes to "shop for" and "show off" consumer technology innovations. The following new technologies have debuted at CES - and the electronics engineering community awaits the many breakthroughs in store at the 2007 show:

Videocassette Recorder (VCR) ....	1970
Laserdisc Player .....	1974
Camcorder .....	1981
Compact Disc Player .....	1981
Digital Audio Technology .....	1990
Compact Disc - Interactive.....	1991
Mini Disc.....	1993
Radio Data System .....	1993
Digital Satellite System .....	1994
Digital Versatile Disk (DVD).....	1996
High Definition Television (HDTV)...	1998
Hard-disc VCR (PVR) .....	1999
Digital Audio Radio (DAR) .....	2000
Microsoft Xbox .....	2001
Plasma TV .....	2001
Home Media Server .....	2002
HD Radio .....	2003
Blu-Ray DVD .....	2003
HDTV PVR .....	2003
HD Radio .....	2004
IPTV .....	2005

## Engineering Corporate Leaders at CES

6,000 engineers from the world's leading emerging technology companies attended the 2006 International CES. Take a look at a sampling of companies that were represented. Your competition will be there, will you?

3M	General Electric	Motorola	Sprint
ABC Inc. (Disney)	General Motors Corp.	NASA	ST Microelectronics
Alcatel	Georgia Tech	National Semiconductor	Sun Microsystems Inc.
AMD	Goodrich	NBC Universal	Symbol Technologies
Analog Devices	Grace Industries Inc.	NCR	TDK Semiconductor
AOL Time Warner	Harris Corp.	NEC Electronics	Tektronix
Apple	Hewlett Packard	NHK Engineering	Texas Instruments
Arrow Electronics	Hitachi	Nikon Corp.	The Coca-Cola Co.
AT&T	Honda R&D	Nissan	The Scripps Research Institute
Avery Dennison	Honeywell	Nokia	Thomson
Avnet	Hughes Electronics	Northrop Grumman	Time Warner Cable
Bechtel	IBM	Oracle Corp.	Toshiba
BMW Designworks USA	Intel	Panasonic	Toyota
Boeing	ITT Industries	Philips	Tyco Electronics
Bosch	Jet Propulsion Lab	Pioneer Research Center	U.S. Air Force
Canon Development Americas	JVC North America R&D	USA Inc.	U.S. Navy
Cingular Wireless	Center	Polaroid	Unisys Corp.
Cirrus Logic	Kodak	Qualcomm	United Airlines
Cisco Systems	Lear Corp.	Raytheon	US Army Corps of Engineers
Compaq	LG Electronics	Rockford Corp.	US Department of Energy
Corning Precision Lens	Lockheed Martin	Rockwell Collins	Verizon
DaimlerChrysler	Los Alamos National Laboratory	Samsung	Walt Disney Imagineering
Delphi	LSI Logic	Sandia National Labs	Westinghouse Nuclear Automation
Disney	Lucent Technologies	Sandisk	Whirlpool Corp.
ExxonMobil	Matsushita Elec.	Sanyo Semiconductor	Xerox
Fairchild Semiconductor	Component Co.	Sarnoff Corp.	Yamaha Corp.
Ford Motor Co.	Mazda Motor Co.	Scientific Atlanta	Zenith Electronics Corp.
Fujitsu	Microsoft	Seiko Epson	
GE Advanced Materials	Mitsubishi Electronics	Sharp Labs of America	
General Dynamics	MIT	Siemens	
		Sony Corp.	