AWS re:Invent

DECEMBER 2 – 6, 2024 | LAS VEGAS, NV

AWS Energy & Utilities Attendee Guide + How to re:Invent

Introduction

The global energy landscape is changing rapidly. Driven by rising demand, the need to decarbonize, and an increase in technological disruption, the industry must reimagine how energy is produced, distributed, and consumed worldwide. This evolution requires innovative thinking, bold actions, and unprecedented collaboration across the energy ecosystem.

At re:Invent 2024, we will unite executives and builders across the energy and utility industries to take on the challenge of our generation as we reinvent energy, together. Whether you're interested in a breakout session, chalk talk, builders' session, or workshop, there's something for everyone at re:Invent to help you along your transformation journey.

I hope you have an insightful, engaging, and fun week at re:Invent. In the meantime, be sure to keep an eye on the AWS Energy & Utilities blog and follow us on our LinkedIn page to stay up to date on all things energy and utilities at re:Invent.

Howard Gefen
General Manager Energy & Utilities, Amazon Web Services

Schedule-at-a-Glance
(Subject to change)

Monday December 2	Tuesday December 3	Wednesday December 4	Thursday December 5
4:00 pm – 7:00 pm: Expo Hall Open – Welcome Reception **5:00 pm – 7:00 pm:** AWS Partner Award Gala **7:30 pm – 9:00 pm: Keynote** **9:00 pm – 12:00 am:** Partner Appreciation Reception	**8:30 am – 10:30 am:** Matt Garman Keynote **10:00 am – 6:00 pm:** Expo Hall open **10:00 am – 5:00 pm:** Executive Summit **12:30 pm:** Women in Leadership Luncheon *(invite only)* **6:00 pm:** WWPS Hospitality Reception	**8:30 am – 10:30 am:** Keynote **10:00 am – 6:00 pm**: Expo Hall open **10:00 am – 5:00 pm:** Executive Summit (Mfg is at 1:15 – 2:15pm) **3:00 pm – 4:30 pm:** Ruba Borno Partner Keynote	**8:30 am – 10:30 am:** Dr. Werner Vogels Keynote **10:00 am – 4:00 pm:** Expo Hall open **7:00 pm:** re:Play

AWS re:Invent is the most comprehensive event of the year that AWS hosts. It's the fastest way to learn about AWS and sharpen your skills. Our vibrant, inspiring cloud community can't wait to meet you.

Keynotes

The most important cloud announcements of the year happen at re:Invent. Be there for big news and product launches that will change the cloud landscape, and then learn how to apply new innovations to your own business.

Hear from top AWS leaders and from big-name customers who will share inspiring stories focusing on the AWS technologies that supported their successes.

[Learn more]

Innovation Talks

Gain valuable new perspectives on a range of cloud computing topics from visionary AWS leaders. Innovation Talks are 60-minute discussions on everything from analytics to security and automotive and industrial.

Browse the full list of Innovation Talks and fill any holes in your schedule. You may just find that "aha!" moment. You can get the most up-to-date schedule on the re:Invent website.

[Learn more]

Session types

BREAKOUT SESSIONS

AWS re:Invent breakout sessions are lecture-style and one hour long. These sessions take place across the re:Invent campus and cover all topics at all levels (200–400). For our virtual attendees, breakout sessions will be available as on-demand video.

WORKSHOPS

Workshops are two-hour hands-on sessions where you work in teams to solve problems using AWS services. Workshops organize attendees into small groups and provide scenarios to encourage interaction, giving you the opportunity to learn from and teach each other.

CHALK TALKS

Chalk talks are a highly interactive content format with a small audience. Each begins with a short lecture delivered by an AWS expert (10–15 minutes) followed by a Q&A session with the audience (45–50 minutes).

BUILDERS' SESSIONS

These are 60-minute small group sessions with up to six attendees and one AWS expert per table, who is there to answer questions and provide guidance. It's just you, your laptop, and the AWS expert.

Learning & Networking Opportunities

There are many additional opportunities across the re:Invent campus to meet new people and learn skills along the way.

EXPO

Learn from AWS experts and partners. The Expo at The Venetian will host the AWS Village, AWS Industry Zone, AWS Partner Network booth, AWS Marketplace booth, Builders' Fair, Developer Lounge, demo theaters, Startup Central, and sponsor booths. Come by and see all that the Expo has to offer!

GAMIFIED LEARNING

Level up your AWS skills by joining our fun, interactive learning events. We're offering gamified learning opportunities at re:Invent: AWS GameDay, Boot Camps, and PeerTalk, where you can win prizes and compete to top the leaderboard.

RE:PLAY

If you still have gas in the tank after a long week of learning, it's party time. Our 12th annual re:Play party with live music, games, food and more.

re:Invent Campus

The Venetian: Location of the AWS for Industries Pavilion, Badge pickup, Content hub, Expo, Keynotes, Innovation Talks, meals, SWAG, EBCs, Exec Summit
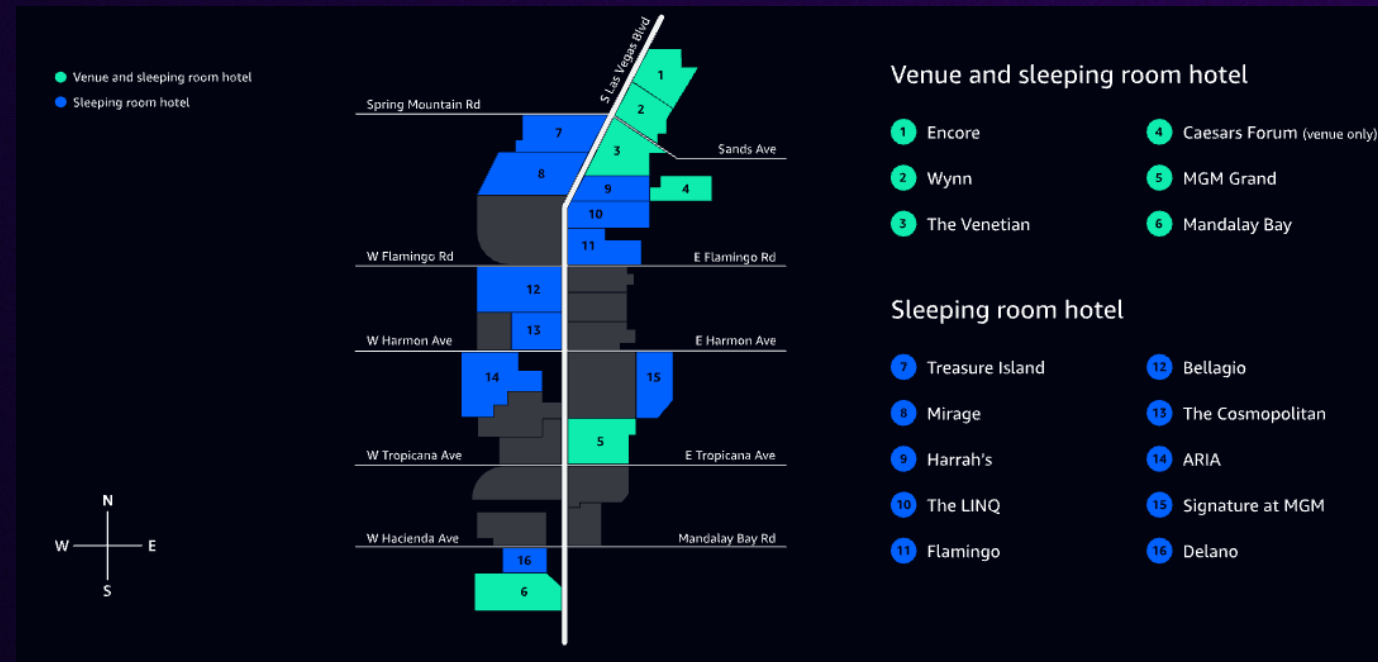
Caesars Forum: Breakout content, Content hub, meals

Encore: Bookable Meeting Space, Breakout content

Mandalay Bay: Breakout content, Content hub, Badge pick up, meals, AWS Rec Center

MGM Grand: Breakout content, Badge pickup, Content hub, meals

Wynn: Breakout content, meals

AWS re:Invent re:Play party

There's so much to learn and do at AWS re:Invent

You've earned it. Celebrate the end of another successful AWS re:Invent with the greatest party in tech. Enjoy everything from live music from Weezer and a headlining DJ and dancing to great food to all the classic re:Play activities like dodgeball and button mash. Shuttles to and from the Las Vegas Festival Grounds start at 7:30 PM, and shuttles will pick up and drop off at all re:Invent hotels.

WHEN & WHERE

🕐 **THURSDAY, DECEMBER 5, 2024**
📍 **LAS VEGAS FESTIVAL GROUNDS**

AWS Energy & Utilities Demonstrations at re:Invent

VISIT US IN THE EXPO

E&U INTERACTIVE DEMOS

AWS FOR INDUSTRIES PAVILION, BOOTH 375

- Experience the Reinventing Energy demo showcasing how AWS services are revolutionizing business outcomes across the entire oil & gas and power & utilities value chain

- Discover how Agents4Energy is enabling innovative generative AI workflows for energy and utility companies

- Witness machine learning and computer vision demos that enable predictive maintenance and quality inspection

- Learn how solutions such as Energy Data Insights and HPC Orchestrator are transforming subsurface exploration

- Explore additional energy and utilities solutions such as Drilling & Completions, Equipment Health Monitoring, Downstream Logistics Optimization and Meter Data Analytics

AWS for Industries Pavilion Hours

Monday, December 2: 4:00 pm -7:00 pm

Tuesday, December 3: 10:00am-6:00pm

Wednesday, December 4: 10:00am-6:00pm

Thursday, December 5: 10:00am-4:00pm

AWS Energy & Utilities Demonstrations

Demo 1: **Biogas plant industrial operations on AWS**

This demo showcases Biogas plant industrial digital operations through cloud computing, IoT, and data analytics to create a data foundation for innovation. It demonstrates how to build Digital Twins of industrial sites using AWS Services through a real-world example. This allows customers to gain real-time operational visibility, optimize processes using data-driven insights, rapidly scale digital initiatives across multiple sites, experiment and innovate with new technologies cost-effectively, and achieve the agility to adapt to changing market conditions and business models quickly.

Demo 2: **Unlocking subsurface with energy data insights and energy HPC orchestrator**

AWS for Energy and Utilities have developed a solution called Energy HPC Orchestrator. In this demo, explore how the AWS-based solution and Al- assisted interpretation solution substantially reduce the time needed to achieve HPC results from seismic data processing to interpretation. By increasing accuracy and enabling more precise subsurface decisions, these solutions lead to better overall outcomes and deliver cost-effective results to customers.

AWS Energy & Utilities Demonstrations

Demo 3: **Accelerating grid modernization on AWS**

Advanced data analytics and data-driven decision making is key to the clean energy transition. This demo lets you experience first-hand how AWS powered utility Operations Technology (OT) systems interact with real-world field equipment in a highly available and fault tolerant manner, opening the door to cloud scale advanced SCADA and Smart Meter data analytics.

Demo 4: **Generative AI for energy & utilities**

This demo presents applications of Gen AI in the energy sector. It discusses the use of AI in post-call analysis at utility call centers, enhancing both customer interaction assessment and agent performance. It also explores AIs application in well log analysis to detect sandstone reservoirs and oil indicators. This demo also features a real-time fuels pricing feature. Lastly, it introduces an EDI (Energy Data Insight) integrate to provide immediate, accurate information about customers subsurface data.

AWS Energy & Utilities Demonstrations

- Demo 5**: End-to-end energy value chain**

- In this demo, we will have an Architectural Model built to represent the end-to-end Hydrocarbon Molecule (Wells-to-Wheels) AND Electron (Generation-to-Consumption) value chains

Reinventing energy, together. Industry value chain model
Space for the new, full-value chain demo (oil/gas + power/utilities builds) approved for Industries Pavilion demo space

Recommendations

Personalized recommendations for energy and utility companies at re:Invent 2024

BREAKOUT SESSIONS

ENU305

An open collaboration for HPC acceleration

In this session, customers learn about Energy HPC Orchestrator (EHO). EHO is an innovative framework designed to transform the execution and operation of traditional energy high performance computing (HPC) applications. It proposes an open industry platform and marketplace for operators, software providers, and academia to deliver innovative seismic processing, imaging, AI/ML, and other state-of-the-art HPC algorithms and workflows. EHO cultivates a competitive environment that encourages innovation within a cloud-native framework, focusing on scalability, fault tolerance, performance optimization, and cost efficiency. By leveraging the latest in cloud technology, EHO enhances efficiency, reliability, and flexibility of existing systems.

Klaas Koster, Vice President Subsurface Innovation, Occidental
Francesco Menapace, General Manager Technology Innovation, Shell
Hussein Shel, Chief Technologist, Energy & Utilities, AWS

Learn more

ENU306

Accelerate control system upgrades through AWS and evergreen testing

In this session, GE Vernova walks through how cloud-ready architecture allows utilities flexibility when deploying control system software, from the edge to on-premises bare metal, cloud, or even hybrid (such as AWS Outposts), and avoids the limited benefits of "lifting and shifting" applications to the cloud. The traditional path of "forklift" upgrades over years need not be your path forward for grid control systems. Working together, vendors, cloud providers, and utilities can deploy a cloud-native architecture with evergreen testing, operational functionality, and security capabilities built in for control system upgrades that won't disrupt electric operations.

Sean Moser, Chief Product Officer, GE Vernova Grid Software, GE Vernova

Learn more

ENU307

All-in on AWS: Transform production operations with Amazon Bedrock

In this session, learn about bpx energy's transformation of production operations on AWS. bpx shares its journey to simplify from multicloud and go all-in on AWS, including SAP and Esri ArcGIS. Discover how bpx leveraged generative AI using Amazon Bedrock to transform oil and gas production operations.

Jordie Harrell, Chief Technology Officer, bpx energy
Michael Brogan, Chief Architect, bpx energy

Learn more

BREAKOUT SESSIONS

ENU308

bp's energy trading digital transformation on AWS

In this session, bp Trading shares its energy trading digital transformation journey on AWS: migrating and modernizing hundreds of applications; hosting business-critical trading applications; and reinventing energy trading with generative AI. The session includes market risk engine modernization for daily value-at-risk (VaR) calculations using Amazon EMR Serverless; regulatory reporting for compliance; packaged trading applications; and generative AI applications on Amazon Bedrock

Tara Wanner VP digital, supply, trading & shipping • Technology DD - Trading Supply & Distribution, BP Amruta Karnak, Sr Solutions Architect, Amazon Web Services

[Learn more](#)

ENU309

Powering the future: NextEra Energy's journey with generative AI

NextEra Energy, a leader in the utility and renewables sector, is harnessing the power of generative AI to enhance customer value, improve employee productivity, and optimize energy operations. This session showcases insights and experiences from NextEra Energy's journey, highlighting key lessons learned and recommendations to help others embark on a successful AI-enabled transformation journey. Gain valuable insights into implementing large-scale generative AI solutions in the energy sector and learn how AWS can support similar transformative initiatives in your own organizations.

**Jose Medina, Sr. Directory - AI & Innovation, NextEra Energy
Joseph Santamaria, Director Energy, Amazon Web Services**

[Learn more](#)

ENU310

Predictive maintenance and optimization of electrical submersible pump

In this session, explore how ExxonMobil (XOM) optimized the performance and reliability of electrical submersible pumps (ESPs) in the Permian Basin. XOM collaborated with Baker Hughes and AWS to enhance ESP management through advanced AI/ML. Discover how hybrid physics-based and machine learning models were deployed to predict ESP failures accurately, improving operational efficiency and reducing downtime. Learn about the challenges encountered, the innovative solutions developed, and the significant benefits realized, including increased production uptime and reduced maintenance costs. Join us to understand how this collaboration is driving long-term success in unconventional oil and gas operations.

**Jeff Miers, Director, Partners, Energy & Utilities, AWS
Eugenia Sorotokin, Executive Director Digital, Production Solutions, Baker Hughes**

[Learn more](#)

CHALK TALKS

ENU301

Migrating an energy trading application to AWS

In this chalk talk, hear how an international energy company migrated its business-critical energy trading and risk management system, Openlink Endur, to AWS. This talk dives into the technical and strategic aspects of this migration, showcasing how the organization used AWS services to enhance performance, scalability, and resilience. Learn about the challenges faced, the innovative solutions implemented, and the tangible business benefits realized, including faster feature delivery, improved developer experience through enabling rapid provisioning of dedicated environments, and increased global availability. Come discover how this migration to AWS has positioned the company for long-term success in the dynamic energy market.

Learn more

ENU302

Unlocking insights from complex datasets with AI/ML and generative AI

Explore techniques for using AI/ML and generative AI for the analysis of vast, complex datasets that are helping organizations extract valuable insights and make critical business decisions faster. In this chalk talk, learn how the oil and gas industry is processing and analyzing massive volumes of seismic, sensor, and operational data with AI/ML and generative AI, helping build predictive models, and optimizing processes through data-driven decision-making. Hear how these technologies are empowering geoscientists and engineers to make informed decisions, optimize reservoir simulation, and maximize resource recovery.

Learn more

ENU303

Unlocking subsurface data with Energy Data Insights on AWS

Explore the synergy of business intelligence, data management, and geospatial analytics within subsurface workflows. AWS has iterated the OSDU Data Platform into a managed service called Energy Data Insights on AWS (EDI). Discover how the EDI solution, along with industry-specific data offerings, integrate with Amazon Q to empower energy companies to overcome data silos, streamline workflows, and gain actionable insights. Learn how this seamless integration of subsurface data is enabling faster decision-making, improved collaboration, and increased exploration success. Dive into real-world use cases and unlock the full potential of your energy data through this technical chalk talk.

Learn more

CHALK TALKS

ENU311

Architecting Advanced Distribution Grid Planning for Duke Energy

In this session, customers will learn how Duke Energy transformed the distribution planning process to optimize the value of Distributed Energy Resources on the grid. Duke's solution uses event-driven patterns and a modern data platform comprising AWS Lakeformation, AWS Glue, EMR, Neptune to change the lives of grid planners every day. Duke streamlined capital investment planning to adjust to a dynamic and complex electric grid. Duke established a common architecture for several use cases on the same data and scaled to millions of advanced distribution planning scenarios. Duke created data products for business users and a cohesive governance model.

Learn more

ENU306

Build GenAI Center of Excellence at CEPSA and scale across Enterprise

In this session, customers will learn how CEPSA built the first specific GenAI use cases and the challenge on how to scale these solutions in a secure and robust way. CEPSA created its GenAI Center of Excellence to accelerate and scale across multiple business units in the enterprise and provide value to customers.

Learn more

ENU312

Convergence of IT/OT data on Cloud – An energy industry use case

In this Chalk Talk, customers will learn how to build a secure global OT/IT network on AWS, connecting disparate and remote assets like solar farms or wellsites to the cloud via OPC-UA Server, SCADA and PLCs. The architecture is 100% private OT and IT network, segregates OT/IT traffic in transit and at rest, and implements Purdue model on AWS.

Learn more

SPONSORED SESSION

HYB101-S

Modernizing & integrating ExxonMobil's ERP systems & apps with Rosa

How does an energy company with the scale and complexity of ExxonMobil modernize its ERP (enterprise resource planning) systems and legacy processes? What is essential for simplifying and rationalizing mission-critical applications that are fundamental to its operations? In this microservices era, seamlessly integrating best-of-breed products and end-to-end business solutions have become crucial. ExxonMobil uses Red Hat OpenShift Service on AWS (ROSA) to host an API integration and management platform that delivers efficiency, portability, speed to market while accelerating accretive business value. Join ExxonMobil and Red Hat as they discuss surmounting technical challenges while building this production ROSA environment. This presentation is brought to you by Red Hat, an AWS Partner.

Chuck Uwanna, Cloud Optimization Strategy Advisor, ExxonMobil
Jim Zimmerman, ROSA Product Manager, Red Hat

WORKSHOP

AES301

Sceptor, Inc. uses big data to reduce methane emissions

Trace gases including methane and carbon dioxide contribute to climate change and impact the health of millions of people across the globe. Discover how Scepter, Inc. aggregates vast datasets, pinpoints emissions, and helps customers like ExxonMobil monitor and mitigate methane releases. Learn how the ScepterAir data fusion platform uses advanced AWS Cloud services to analyze and extract insights from ground-based, airborne, and in-orbit data sources with low latency. These atmospheric monitoring capabilities help governments, energy companies, agriculture, waste management, healthcare, retail, and transportation industries monitor methane, carbon dioxide, and airborne particulates to help them reach their sustainability goals and meet regulatory requirements.

Philip Father , Founder & CEO, Scepter
Emily Reidy, Research Scientist, ExxonMobil
Chantz Thomas, Sr. Space Consultant, Amazon

LIGHTNING TALKS

WORKSHOP

ENU100

Achieving dynamic power grid operations with AWS

Reducing carbon emissions requires shifting to renewable energy, increasing electrification, and operating a more dynamic power grid. In this lightning talk, learn how customers are using AWS to perform millions of calculations on real time grid data to execute the scenario analysis, simulations, and operational planning necessary to operate a dynamic power grid.

Industries Expo Area

Harnessing Technology and Leadership to Accelerate Energy Innovation:

As the energy sector evolves to meet the demands of a sustainable future, leveraging technology and fostering inclusive leadership has never been more critical. Currently, women make up about 22% of the workforce in the energy sector, with only sixteen percent in senior leadership roles. Other underrepresented groups, including people of color and those from diverse cultural backgrounds, face similar barriers. This disparity highlights the pressing need for conscious leadership to bridge these gaps, drive diversity, and encourage innovative thinking across the industry.

Dalen Copeland, VP EDFR

ENU304

Predictive maintenance with generative AI and agentic workflows

In the era of Industry 4.0, predictive maintenance has become a cornerstone for enhancing operational efficiency and reducing downtime. Generative AI enhances predictive maintenance workflows by enabling real-time anomaly detection and actionable insights while facilitating natural language interactions and dynamic task execution through agentic workflows. During this workshop, learn how to use generative AI to detect anomalies in sensor readings from an electric motor by comparing them with the specifications in the motor's operating manual. When anomalies are detected, a large language model will utilize agents to determine who is on call and notify them of the issue. You must bring your laptop to participate.

Learn more

ADDITIONAL ENERGY & UTILITIES SESSIONS

BREAKOUT SESSIONS

- MFG 201- Empowering the next generation industrial operator with generative AI

- SUS203- Enabling the future: Nuclear fusion on Elastic Fabric Adapter

- NET304 – Extend the edge of your network with fast low Earth orbit connectivity

- SUS204 – How to achieve water goals with AWS technology

- IOT203 – Optimizing manufacturing operations with AWS IoT

- AIM201 – Maximize Amazon Q business impact with Amazon Q Apps

BREAKOUT SESSIONS

- AES301 - Scepter's data fusion platform using monitoring in the cloud

- IOT305 – Transforming smart metering for sustainable resource use with AWS IoT

- SUS305 Assessing climate risk with spatial analysis on AWS

- SUS205 Integrating generative AI effectively into sustainability strategies

- SUS304 – Using AI/ML for sustained energy efficiency in industrial operations

- CMP322 – Amazon EC2 High Memory profolio for SAP HANA

ADDITIONAL ENERGY & UTILITIES SESSIONS

BREAKOUT SESSIONS

- MFG206 – Closing the machine to cloud gap to jump start digital transformation

- SEC317 – How Amazon threat intelligence helps protect you infrastructure

- SUS203- Enabling the future: Nuclear fusion on Elastic Fabric Adapter

- MAM222 – Unlock your innovation potential with AWS, SAP, and generative AI

BREAKOUT SESSIONS

- AIM379 – A close look at how AWS builds generative AI on Amazon SageMaker

- CMP203 – Drive innovation and results with high performance computing on AWS

- CMP204 – High performance computing: Reinvented to help you think truly big

- AIM108 – 7 principles for effective and cost-efficient generative AI apps

Useful resources

Stay up to date with the app and keep your checklist squared away for re:Invent.

Your re:Invent checklist

✓ Register for re:Invent, book your hotel, book your travel reservations, upload your badge photo

✓ Visit the re:Invent website to stay up to date on announcements

✓ Add all keynotes to your agenda
   Pro tip: This is where you'll catch the biggest AWS launches

✓ Add your favorite Leadership sessions to your agenda

✓ Get ready for reserved seating: favorite the learning sessions of interest to you

✓ Familiarize yourself with sponsors in the Expo, along with the Expo map

✓ If you're attending with a team, connect with your colleagues to plan how to maximize the learnings
   Pro tip: Don't forget to find time to reconvene with your team and debrief on everyone's experiences

✓ Follow AWS for Energy & Utilities

Mobile app

The AWS Events mobile app is your companion in planning and navigating your re:Invent experience.

- Explore the sessions, experts, and exciting new services and features that will be available at re:Invent
- Plan your experience by adding sessions of interest to your planner
- Get updates on the latest content, speakers, and services added to the catalog
- Complete session survey questions and provide feedback
- View a map of the re:Invent campus
- Get notifications for activities happening throughout the event

Download on the App Store

GET IT ON Google Play

Thank you!

Please complete the session survey in the mobile app