



Innovation and scalability with Amazon Web Services (AWS)

Marcel van der Vliet
Senior Partner Solution Architect
14-11-2019



What is Cloud Computing?



The **on-demand** delivery of compute power, database, storage, applications, and other **IT resources** via the internet with **pay-as-you-go** pricing.



amazon go

No Lines.
No Checkout.
(No, Seriously.)

- 1994 ○ Founded
- 1995 ○ Amazon.com
- 1998 ○ CDs & DVDs
- 2006 ○ **Amazon Web Services**
- 2007 ○ Kindle
- 2011 ○ Video
- 2012 ○ Groceries
- 2014 ○ Alexa/Echo
- 2015 ○ Bookstores
- 2017 ○ Go
- 2019 ○ 4-Star

What is AWS?

Some examples where you might have used our services:

NETFLIX

 **airbnb**

iZettle®

 **ROVIO**

**SUP
ERC
ELL**

VR

 **amazon**

ticketmaster

coursera

What is AWS?

AWS provides a highly reliable, scalable, low-cost infrastructure platform in the cloud that powers millions of businesses in over 190 countries around the world.

Benefits

- Low Cost
- Elasticity & Agility
- Open & Flexible
- Secure
- Global Reach



Software as a Service (SaaS)



Platform as a Service (PaaS)



Infrastructure as a Service (IaaS)

<http://aws.amazon.com/what-is-cloud-computing/>

<http://aws.amazon.com/about-aws/>

Breadth and Depth of Services

TECHNICAL & BUSINESS SUPPORT

- Support
- Professional Services
- Optimization Guidance
- Partner Ecosystem
- Training & Certification
- Solutions Management
- Account Management
- Security & Billing Reports
- Personalized Dashboard

MARKETPLACE

- Business Apps
- Business Intelligence
- DevOps Tools
- Security
- Networking
- Databases
- Storage

ANALYTICS

- Data Warehousing
- Business Intelligence
- Hadoop/Spark
- Streaming Data Analysis
- Streaming Data Collection

DEV OPS

- One-click App Deployment
- Resource Templates
- Build & Test
- Application Lifecycle Management
- DevOps Resource Management
- Triggers
- Containers
- Analyze & Debug
- Patching

MOBILE SERVICES

- API Gateway
- Single Integrated Console
- Identity
- Sync
- Mobile Analytics
- Mobile App Testing
- Targeted Push Notifications

IoT

- Rules Engine
- Device Shadows
- Device SDKs
- Device Gateway
- Registry
- Local Compute

MACHINE LEARNING

- Custom Model Training & Hosting
- Image & Scene Recognition
- Facial Recognition & Analysis
- Facial Search
- Text to Speech
- Conversational Chatbots
- Deep Learning (Apache MXNet, TensorFlow, & others)

ENTERPRISE APPS

- Virtual Desktops
- Sharing & Collaboration
- Corporate Email
- App Streaming
- Communications
- Contact Center

HYBRID ARCHITECTURE

- Data Integration
- Integrated Networking
- Integrated Identity & Access
- Integrated Resource & Deployment Management
- Integrated Devices & Edge Systems

MIGRATION

- Schema Conversion
- Exabyte-Scale Data Migration
- Application Migration
- Database Migration
- Server Migration

APP SERVICES

- Queueing & Notifications
- Workflow
- Search
- Email
- Transcoding

INFRASTRUCTURE

- Regions
- Availability Zones
- Points of Presence

CORE SERVICES

- Compute**
VMs, AutoScaling, Load Balancing, Containers, IoT services, Serverless, Big Data Computing, Cloud Systems, Elastic Cloud, Edge Computing
- Storage**
Object, Block, File, Archives, In-Memory, Database, etc. data service
- Databases**
Relational, NoSQL, Graph, Integration, Managed, Columnar, etc.
- Networking**
VPC, etc. etc.
- CDN**

SECURITY & COMPLIANCE

- Identity Management
- Configuration Compliance
- Access Control
- Key Management & Storage
- Monitoring & Logs
- Account Grouping
- Assessment & Reporting
- Resource & Usage Auditing
- Web Application Firewall
- DDOS Protection

MANAGEMENT TOOLS

- Manage Resources
- Monitoring
- Service Catalogue
- Server Management
- Configuration Tracking
- Resource Templates

Our mission

To be Earth's most
customer-centric company

Where innovation begins

Start with the customer
and work backwards



FOCUS



Most companies write the software, they get it all working, and then they throw it over the wall to the marketing department, saying 'here is what we built, go write the press release.' **That process is the one that's actually backwards."**

Jeff Bezos
Founder and Chief Executive Officer
Amazon.com, Inc.



Rapid Growth

- AWS has **millions of active customers** every month.
- AWS is a large and rapidly growing business. Q3 2019 revenue for the AWS segment increased **35% YoY** to \$9 billion, making AWS a nearly **\$36 billion dollar run rate** business. [October 25, 2019]
- AWS is the fastest enterprise IT vendor to reach a \$10 billion run-rate.

What sets AWS apart?



Experience

Building and managing cloud since 2006



Service Breadth & Depth

165+ services to support any cloud workload



Pace of Innovation

History of rapid, customer-driven releases



Global Footprint

22 regions, 69 availability zones, 200 points of presence



Pricing Philosophy

76 proactive price reductions to date



Ecosystem

Thousands of consulting/system integrator & technology partners



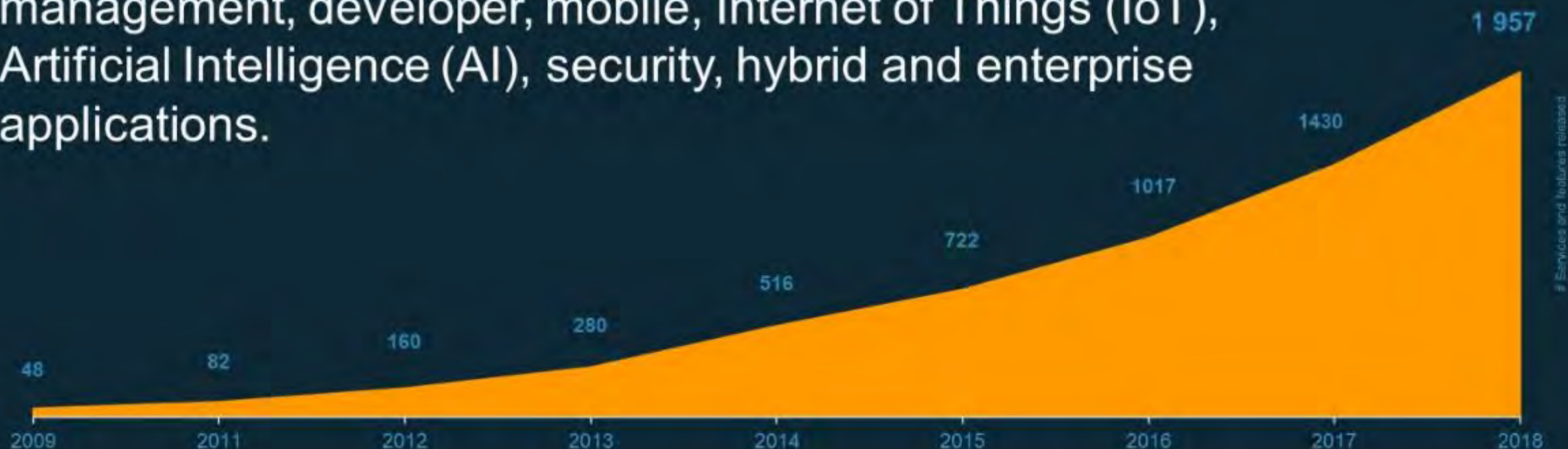
Every one of us is a **leader** on our mission

<https://www.amazon.jobs/en/principles>

AWS' History of Innovation



AWS has been continually expanding its services to support virtually any cloud workload, and it now has **more than 165 services** that range from compute, storage, networking, database, analytics, application services, deployment, management, developer, mobile, Internet of Things (IoT), Artificial Intelligence (AI), security, hybrid and enterprise applications.





Invention comes in many forms and at many scales. The most radical and transformative of inventions are often those that empower **others** to unleash **their** creativity – **to pursue their dreams**

Jeff Bezos
Founder and Chief Executive Officer
Amazon.com, Inc.

Improving interactions for wheelchair users

Loro, a robot that helps wheelchair-bound individuals engage more deeply with the world around them, uses Amazon SageMaker to iteratively learn its users preferences and needs.

The logo for Loro, featuring the word "Loro" in a white, rounded, sans-serif font. The letter "o" is stylized with a small dot above it. The logo is centered on a dark blue rectangular background.

Personalizing the driving experience

Kia Motors uses Amazon Rekognition for advanced image and video analysis of an in-car camera that detects the driver. Then, the car automatically adjusts driver-assistance features like personalized mirror and seat positioning.



Get a ride whenever you need one

Lyft is the fastest growing rideshare company in the United States and is available in more than 200 cities, facilitating over 1 million rides per day.

Lyft uses AWS to move faster as a company and manage its exponential growth. Lyft leverages AWS services to support more than 100 microservices that enhance every element of its customers' experience.

They needed a solution that scales to manage up to 8x more riders during peak times.



Helping users find parking

Mapillary uses Amazon Rekognition to analyze the 360+ million images in their database and extract text from parking signs. That information enabled them to create a new parking solution.



Bringing all your means of travel to one easy place

Whim, the first all-inclusive MaaS solution commercially available on the market, gives its users all city transport services in one step, letting them journey where and when they want with public transport, taxis, bikes, cars, and other options, all under a single subscription.

<https://whimapp.com/about-us/>

https://nordcloud.com/case_studies/bootstrapping-the-platform-for-a-billion-dollar-business-opportunity/



Selected Nordic customers:

<https://aws.amazon.com/local/nordics/>



Volvo Connection Group



Den Danske Bank

Fortum

SPRINGWORKS

Burt.

Sinch!

Tictail



FINNISH METEOROLOGICAL INSTITUTE

VIVINO

TRADESHIFT

realeyes™

DANIEL WELLINGTON



ambita



SciLifeLab

Customers in every industry segment



Advertising & Marketing

Drive your advertising and marketing business with flexible, highly scalable, elastic and low cost solutions to build on.



Automotive

Build intelligent connected experiences and accelerate time to market for every touchpoint of the customer journey.



Education

Solutions to help facilitate teaching, learning, student engagement and better learning outcomes as well as modernized enterprise wide IT operations.



Financial Services

Develop secure and innovative solutions to increase customer and shareholder value.



Gaming

Services to enable game development, across all genres and platforms, from AAA games to small independent studios.



Government

Services designed to help government agencies modernize, meet mandates, reduce costs, drive efficiencies and deliver mission outcomes.



Healthcare & Life Sciences

Solutions for increasing the pace of innovation, data lifecycle management, incorporating new technology into care delivery, and improving security and compliance.



Manufacturing

Develop smart, connected products and services and drive efficiencies throughout your operations.



Media & Entertainment

Solutions for ingesting, processing, storing, delivering and analyzing all of your video and media content.



Nonprofit

Services enabling more mission for the money and ways to minimize costs, optimize scale and donor engagement to further your mission and impact.



Oil & Gas

Solutions to accelerate decision-making, increase profitability, and improve efficiencies in Oil & Gas.



Power & Utilities

Solutions to extract deep insights from data, to manage distributed energy networks, and to deliver engaging new services.



Retail

Cloud Solutions that help retailers accelerate innovation, optimize operations, and delight customers.



Telecom

Accelerate innovation, scale with confidence, and add agility with cloud-based telecommunications solutions from AWS.



Travel and Hospitality

Services to help travel and hospitality companies gain a competitive edge by enhancing customer experiences and optimizing operations.

<https://aws.amazon.com/industries/>

Pricing Philosophy

High volume / low margin businesses are in our core DNA

Trade CapEX for
variable expense

Our economies of
scale provide us
with lower costs

Pricing model
choice to support
variable and stable
workloads

Save more money as
you grow bigger

Pay for
usage of
resources

76 price
reductions
since 2006

On-demand
Reserved Instances
Spot
Savings Plans

Tiered pricing
Volume discounts
Custom pricing

Scale globally with resilience **in every region**

22 Regions – **69** Availability Zones – **200** Points of Presence and announced plans for **13** more Availability Zones and **4** more AWS Regions in Indonesia, Italy, South Africa, and Spain



<https://aws.amazon.com/about-aws/global-infrastructure/>

A Region is a physical location in the world where we have multiple **Availability Zones**.

Availability Zones consist of one or more discrete data centers, each with redundant power, networking, and connectivity, housed in separate facilities.





Global Network: Redundant 100GbE network and private capacity between all regions except China

Direct Connect: 80+ locations; Customers can reach every AWS Region from their local Direct Connect PoP

THE Paris... CLIMATE 10 years PLEDGE Early

Commitment to a sustained future

On September 19, 2019, Amazon and Global Optimism announced [The Climate Pledge](#), a commitment to meet the Paris Agreement 10 years early. Amazon is the first signatory of this pledge. The Climate Pledge calls on signatories to be net zero carbon across their businesses by 2040—a decade ahead of the Paris Agreement's goal of 2050.

100% Net zero carbon by 2040

Deploying our technology and people to reach net zero carbon across Amazon by 2040, one decade ahead of the Paris Agreement.

80% Renewable energy by 2024

Investing in wind and solar to reach 80% renewable energy across all business operations by 2024. We expect to reach ~40% renewable energy by the end of 2019.

100% Renewable energy by 2030

Investing in wind and solar to reach 100% renewable energy across all business operations by 2030.

50% Shipments net zero carbon by 2030

Our vision to make all Amazon shipments net zero carbon, with 50% of all shipments net zero carbon by 2030.





Self-service platforms without **gatekeepers**

Creating powerful self-service platforms that enable builders to use the right tool for the right job

The AWS Partner Network



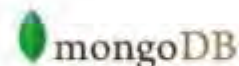
Thousands of the world's largest technology and consulting companies



4,800+ software listings; 1400+ ISVs

AWS customers use over 650 million hours a month of Amazon EC2 for AWS Marketplace products.

More than 230,000 active customers are using software from the AWS Marketplace [as of May 6th, 2019]



<https://aws.amazon.com/partners/find/>

<https://aws.amazon.com/marketplace>

Useful Links

Getting started: <https://aws.amazon.com/getting-started/>

Training and Certification: <https://aws.amazon.com/training/>

Documentation: <https://docs.aws.amazon.com/>

News: <https://aws.amazon.com/new/>

FAQ's: <https://aws.amazon.com/faqs/>

Online Tech Talks: <https://aws.amazon.com/about-aws/events/monthlywebinarseries/>

BLOGs: <https://aws.amazon.com/blogs/>

Architecture Resource Center: <https://aws.amazon.com/architecture/>

YouTube Channel: <https://www.youtube.com/user/AmazonWebServices>

Twitch: <https://www.twitch.tv/aws/videos/all>

Thank you!

marvliet@amazon.fi