# AWS re:Invent

NOV. 29 – DEC. 3, 2021 | LAS VEGAS, NV

ENR302

# Operational optimization with IoT: Storage and analytics

Houssam Hamad
Solutions Architect
Amazon Web Services

Abhishek Naik
Solutions Architect
Amazon Web Services

© 2021, Amazon Web Services, Inc. or its affiliates. All rights reserved.

# Agenda

1. The goal
2. The problem
3. Technical challenges
4. The solution
5. Q&A

# Goals

- ✓ Understand the AWS services that allow you to store, catalog, and share data to derive business insight
- ✓ Understand how to democratize the skills required to derive insights

© 2021, Amazon Web Services, Inc. or its affiliates. All rights reserved.

# A note on chalk talks

Collaborative

Interactive

Productive

© 2021, Amazon Web Services, Inc. or its affiliates. All rights reserved.

# Meet your neighbors

What is your name, and what is the place you call home?

What is your role, and what brought you to re:Invent?

What's an interesting problem you're trying to solve that involves data or IoT?

© 2021, Amazon Web Services, Inc. or its affiliates. All rights reserved.

# The goal

© 2021, Amazon Web Services, Inc. or its affiliates. All rights reserved.

**“We have all the data we need all the time to solve every business and operational problem we have and will ever have.”**

© 2021, Amazon Web Services, Inc. or its affiliates. All rights reserved.

# The goal

"We have access to our telemetry data, but no access to other data sources to bring context and enrich it"

"We have access to all data, but it is siloed and integrations are complicated"

"We have access to all data in a centralized fashion. The skills required to derive insights from data have been democratized"



Walk away with at least one tool or the spark of an idea to solve an existing problem you are facing

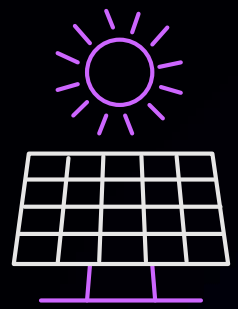
aws

© 2021, Amazon Web Services, Inc. or its affiliates. All rights reserved.

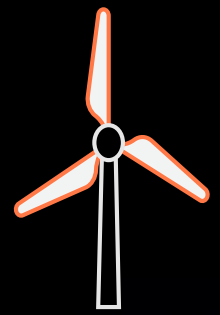
# The problem

Unplanned downtime of energy assets is expensive and disruptive









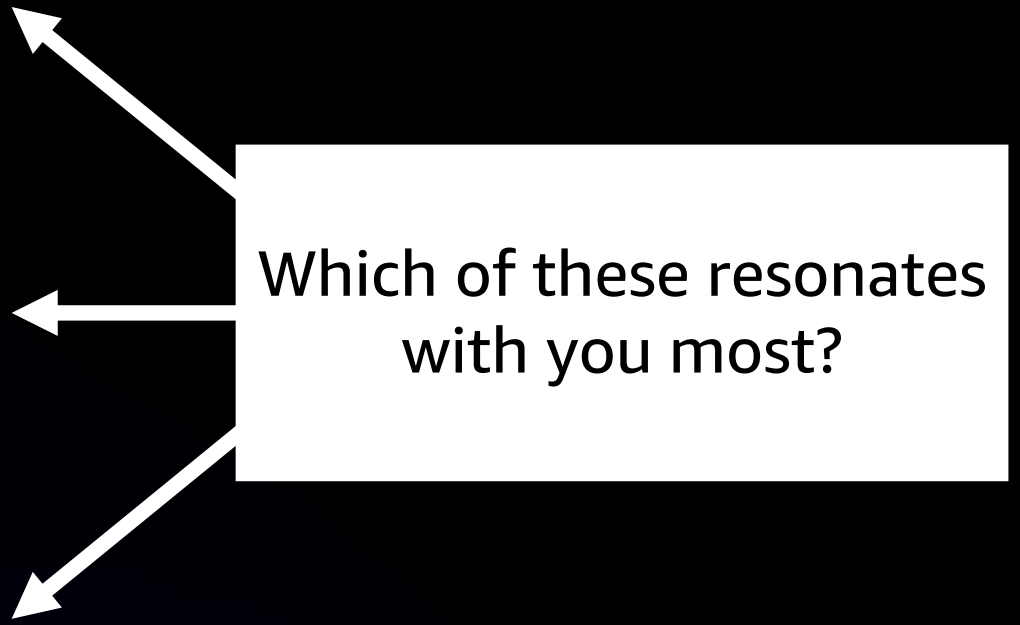
© 2021, Amazon Web Services, Inc. or its affiliates. All rights reserved.

# The technical challenge

**Many data sources = complex integration**
Telemetry, asset, financials …

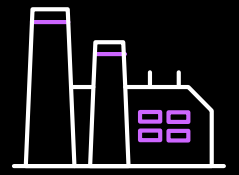
**Expensive compute resources**
Running analytics in the classical data center is expensive, as I have to scale my compute and storage synchronously

**Analytics and machine-learning skills**
Data engineering and data science skills are not readily available in the market and are hard to retain



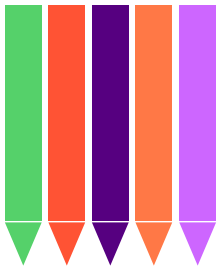

© 2021, Amazon Web Services, Inc. or its affiliates. All rights reserved.

# Your technical challenge



What other technical challenges are you encountering with your IoT workloads?

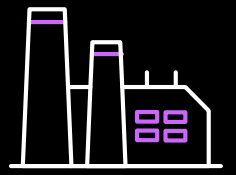
Group poster



© 2021, Amazon Web Services, Inc. or its affiliates. All rights reserved.

# Customer story



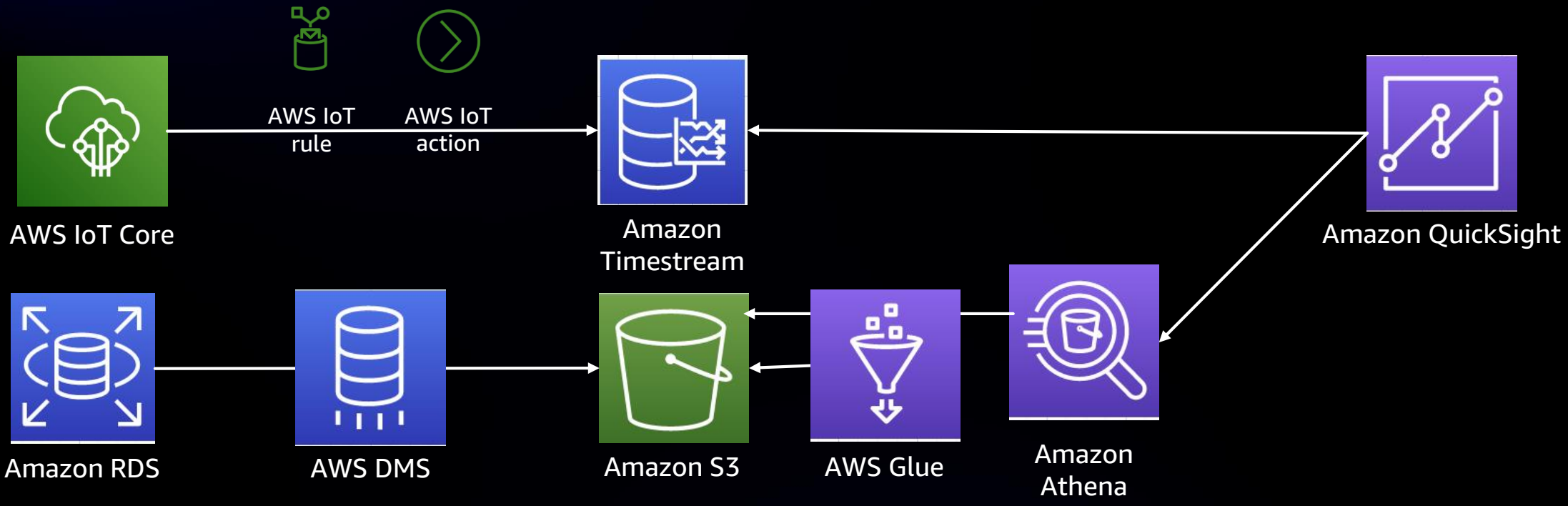
“It’s really about helping consumers change the way they use energy. To achieve that huge behavioral change, utilities need to do a better job of engaging energy users. And that’s where we help energy companies – by empowering them with the real-time monitoring capabilities they need to move their business from selling commodities to selling services.”

Bert Lutje Berenbroek, CEO, NET2GRID

aws

© 2021, Amazon Web Services, Inc. or its affiliates. All rights reserved.

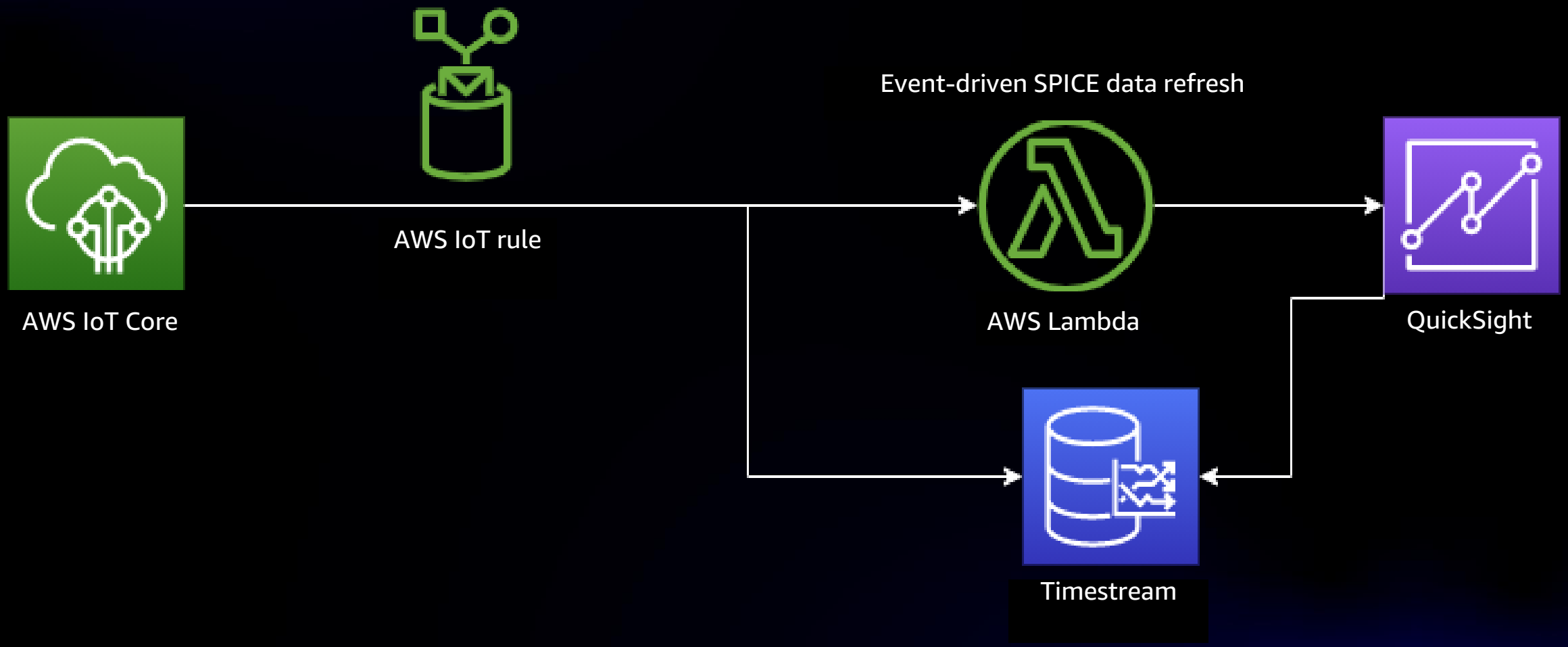
# The solution




Orchestrate → Store → Transform/visualize

© 2021, Amazon Web Services, Inc. or its affiliates. All rights reserved.

# Bonus: Event-driven SPICE data refresh




© 2021, Amazon Web Services, Inc. or its affiliates. All rights reserved.

# Thank you!

Houssam Hamad
houssh@amazon.com

Abhishek Naik
abhisna@amazon.com

© 2021, Amazon Web Services, Inc. or its affiliates. All rights reserved.