Royal Caribbean Group

EY

Transforming Data Silos into an Information Hub with Databricks

Moez Hassan & Hugh Burgin

Introductions

Moez Hassan

Chief Data Officer

Royal Caribbean Group

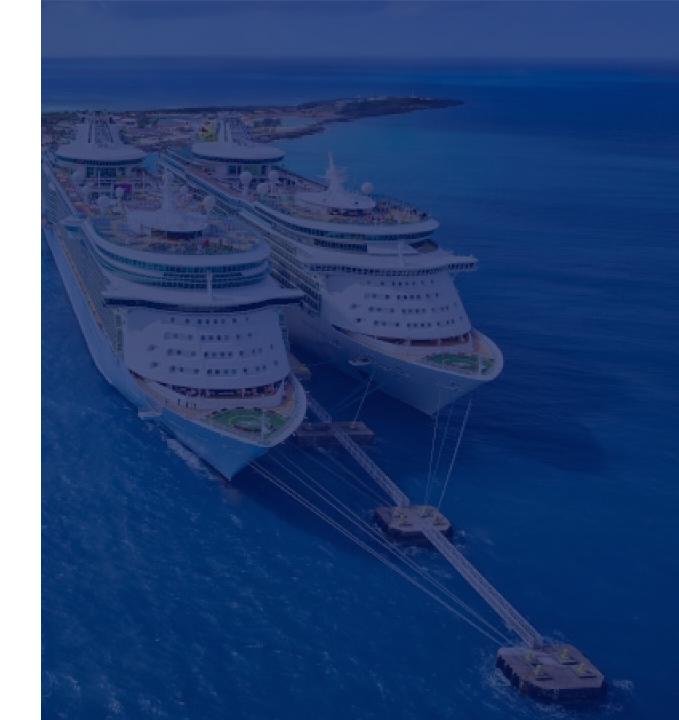**Hugh Burgin**

Americas AI & Data Analytics Leader
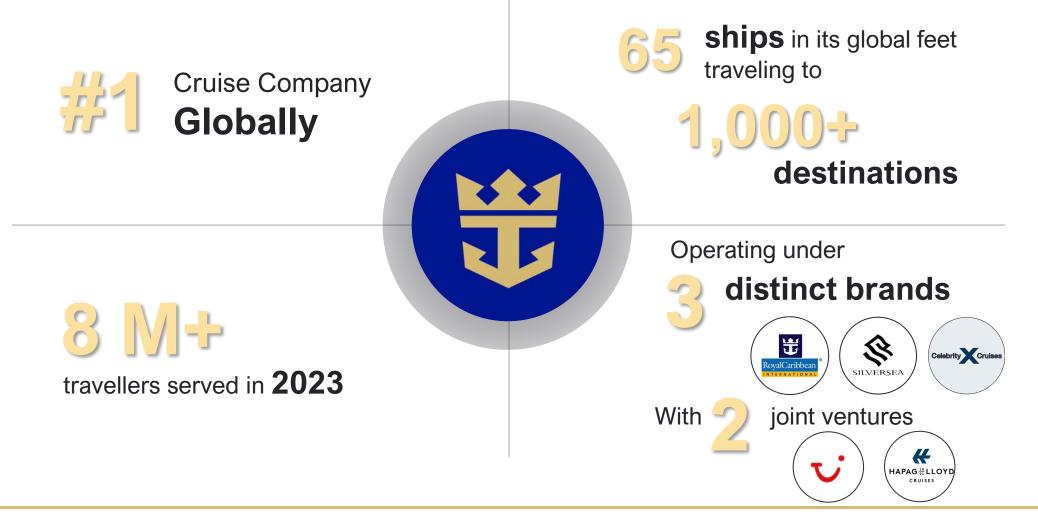
EY

Discussion topics

Data and AI complexities at Royal Caribbean and our vision for an Information Hub

How Databricks has been key to unlocking significant business value

Key takeaways and lessons learned

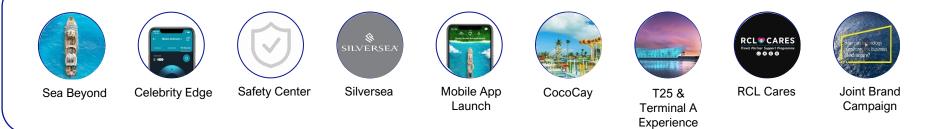# Royal Caribbean Group

#1 Cruise Company **Globally**

65 **ships** in its global feet traveling to

1,000+ **destinations**

8 M+ travellers served in **2023**

Operating under

3 **distinct brands**

With **2** joint ventures

Royal Caribbean Group and EY Partnership

RCG & EY joint Ad Brand Campaign

Continuing our **20-year legacy** of supporting Royal Caribbean's ambition of being the **growth leader in the travel industry** by bringing innovative solutions and leveraging the power of One EY to enable the company for the transformative age while providing exceptional growth experiences for our people.

Track record of engagement with Royal Caribbean across many major announcements in the last decade

Sea Beyond | Celebrity Edge | Safety Center | Silversea | Mobile App Launch | CocoCay | T25 & Terminal A Experience | RCL Cares | Joint Brand Campaign

EY and Databricks Partnership

EY x databricks

How EY and Databricks Work Together

- EY and Databricks help clients transform their organizations by enabling new capabilities that unlock value from their data.
- Bringing together significant business consulting depth with the ability to scale technology solutions that generate business outcomes.
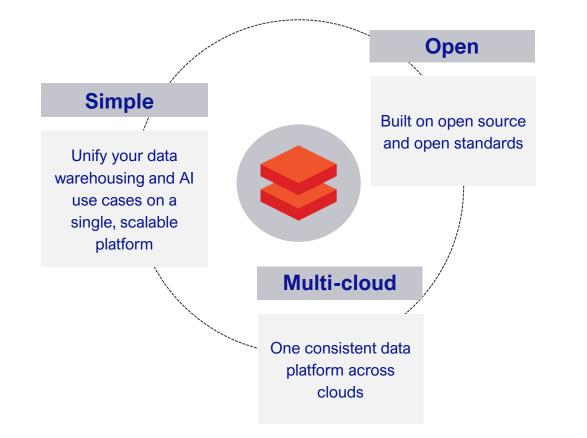
How the Alliance benefits clients

- Accelerate data analytics and AI modernization
- Scale data science, AI and Generative AI across the enterprise.
- Derive business value from data.
- Empower teams to simplify and democratize data and AI.

Trained Resources and Certifications

2000+ FTEs Globally	500+ Certifications Globally	10+ Databricks Champions	Multiple Brickbuilder Solutions

Alliance Solutions

MLOps and Data Mesh	Predictive Maintenance	Secure Enclaves	Demand Forecasting & Inventory Optimization	Accelerated Data Analytics Modernization

Databricks is the catalyst for Royal Caribbean's successful transformation

Databricks provides a **Fully Managed, Scalable Modern Lakehouse Platform** that removes data silos and provides a unified analytics platform, to enable **rapid delivery of value at scale**.

Simple
Unify your data warehousing and AI use cases on a single, scalable platform

Open
Built on open source and open standards

Multi-cloud
One consistent data platform across clouds

Databricks Core Principles

- A data lake for all data with an open, transactional curated layer
- Separate compute to support all primary data lake use cases
- Easy integrations with other tools and services to enable customer use cases

Databricks Value to Royal Caribbean

- Scale data science and AI across enterprise
- Derive business value from data
- Empower data teams to simplify and democratize data and AI

The complexities of Data & AI services at Royal Caribbean

Over the last 50 years, Royal Caribbean Group has experienced exponential growth, but also increased complexity.

Organic Growth

Customer & Business Model Evolved

Transformation

Multiple Brands and Processes

The convergence of multiple data repositories, consumer PII spread across various sources, competing cloud platforms, redundant technologies, and a decentralized approach all contribute to a **complex and fragmented data and AI architecture** that we are addressing with Databricks to drive AI Ready Data and new AI solutions.

Impacts of core these challenges on the business

Data Fragmentation isolates your data and limits an enterprise's ability to enable all aspects of its data ecosystem across the business.

Complexity to deliver new use cases
Multiple data warehouses across on-premise and cloud platforms

Lack of centralization
Requires data from various systems to stitch together business needs like ability to understand a customer

Difficult to integrate new businesses
Unable to quickly connect new businesses into our ecosystem like SilverSea

Lack of velocity
Every new initiative requires a rethink to data strategy (examples: digital, ecommerce, etc.)

Ability to scale
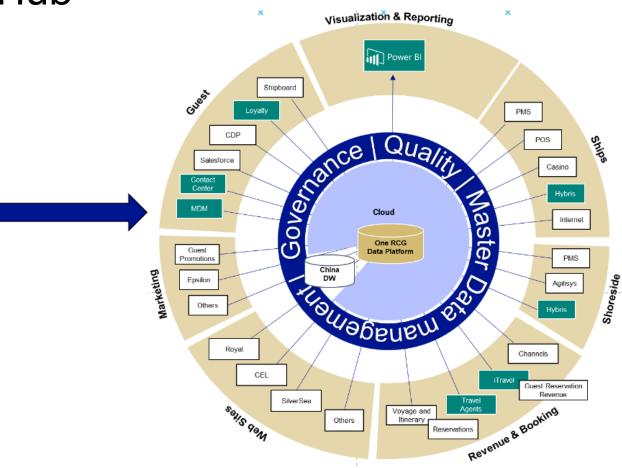Distributed infrastructure limits our ability to address future growth

UNIFIED DATA ECOSYSTEM

From Data Silos to Information Hub

Unlocking value and create a robust global data platform
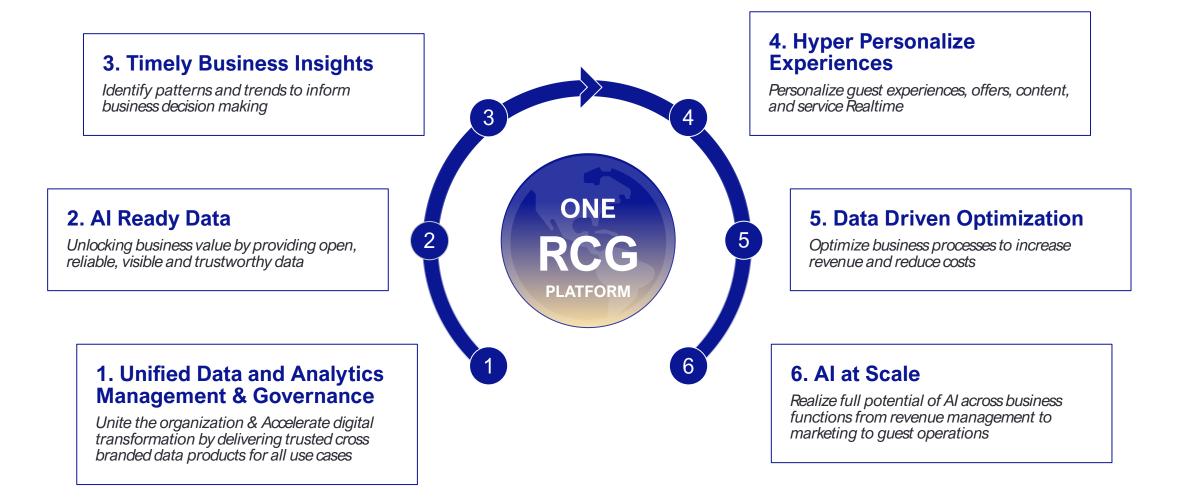
Royal Caribbean Information Hub

- ▶ One RCG Data Analytics and AI Platform
- ▶ 100% of Data on cloud
- ▶ Consumer PII information governed
- ▶ Highly managed hybrid cloud platform
- ▶ Consistent Technology stack
- ▶ Consolidated service providers

EY played a pivotal role driving **strategic**, **development,** and **implementation** efforts in collaboration with Royal Caribbean and Databricks
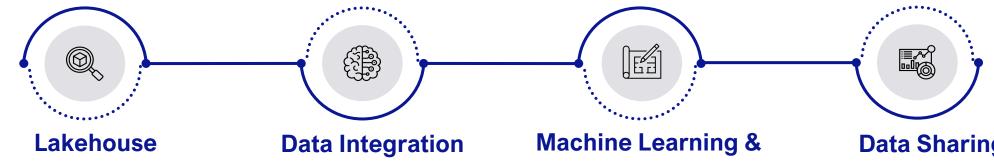
Strategy: One RCG Platform

3. Timely Business Insights

Identify patterns and trends to inform business decision making

4. Hyper Personalize Experiences

Personalize guest experiences, offers, content, and service Realtime

2. AI Ready Data

Unlocking business value by providing open, reliable, visible and trustworthy data

5. Data Driven Optimization

Optimize business processes to increase revenue and reduce costs

1. Unified Data and Analytics Management & Governance

Unite the organization & Accelerate digital transformation by delivering trusted cross branded data products for all use cases

6. AI at Scale

Realize full potential of AI across business functions from revenue management to marketing to guest operations

ONE **RCG** PLATFORM

Databricks is key to the Information Hub Vision

Lakehouse Architecture

- Combines the reliability of data lakes with the performance of data warehouse
- Capability to store structured & semi-structured data in a unified and optimized manner
- Real time update to data lake enabling data versioning, schema enforcement, data lineage and efficient query performance.

Data Integration

- Batch & Real Time data integration leveraging Apache Spark, Apache Kafka to support ETL/ET capabilities
- Source data from legacy on-premise systems and transfer into Databricks Lakehouse storage solutions
- Simplified process of data consolidation using Lakehouse federation

Machine Learning & Generative AI

- Build and deploy custom Generative AI solutions using Mosaic AI and DBRX
- Enable Data Science using Databricks as platform for ML
- Collaborate on machine learning projects using ML Flow
- Efficient model management, deployment & performance monitoring using ML Flow

Data Sharing

- Offers new open standard for secure & scalable data collaboration using delta sharing
- Convenient and secure platform for data discovery, data access using Data Marketplace

Unlocking Business Value with AI Ready Data on Databricks

Three examples:

Intelligent In-House Pricing	**AI Enabled Optimization of Business Processes**	**Generative AI for Customer and Employee Experience**
Automation of pricing decisions across brands, optimized with machine learning at scale	*Supply chain optimization to reduce waste, reduce fuel consumption and increase efficiency*	*From contact center to software development, GenAI is driving business value*

Transformation of RCG data platform and revenue processes
Accelerated data analytics modernization with Generative AI and Databricks

	Requirement gathering	Planning and design	Code and build	Test and review	Deploy and hypercare
Benefit realization	• Increased productivity and efficiency • Turnaround time reduction • Improved requirement quality • Code summarization for business users	• Error reduction and time saving • Design iteration efficiency • Enhanced design quality with customization and personalization	• Reduced development effort and time savings • Code quality improvement • Increased code reusability • Enhanced collaboration and knowledge sharing	• Improvement in productivity from test development to test automation	• Deployment time reduction • Increased deployment success rate • Increased mean time to recover
AI impact	AI can aid in requirement elicitation, business use case creation, requirement prioritization, rapid prototyping and visualization.	AI can aid in fast-tracking planning and design by analyzing user inputs, generating detailed user stories and acceptance criteria, design sketches, personas and journey maps.	AI can support the code build and merge steps by automating code integration, identifying and resolving conflicts, suggesting version control strategies and providing insights on build optimizations.	AI can assist in software testing by generating test cases, identifying potential edge cases and boundary conditions, suggesting test coverage strategies, and aiding in automated testing frameworks and regression testing.	AI can aid in version release for software development by providing release note generation, assisting in change management and release planning, suggesting deployment strategies and facilitating documentation for the release process.

← 10-50% increase in productivity across different parts of development lifecycle →

Key takeaways and lessons learned from our experience

✓ Demonstrate the rapid value of business solutions utilizing ML/AI

✓ Iteratively Build & Deploy

✓ Simplify the Technology Stack

✓ Integrate Analytics and AI with Operations

✓ Fulfill Internal & External Data Sharing use cases

✓ Facilitate the adoption through ongoing evangelization, training and leadership support

✓ Embrace a product-oriented mindset

THANK YOU