AWS re:Invent

IOT204-S

More than rubber on the road: Tires in an IoT world

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Pirelli

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Datadog

AWS re:Invent

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aws

Ice-breaker!

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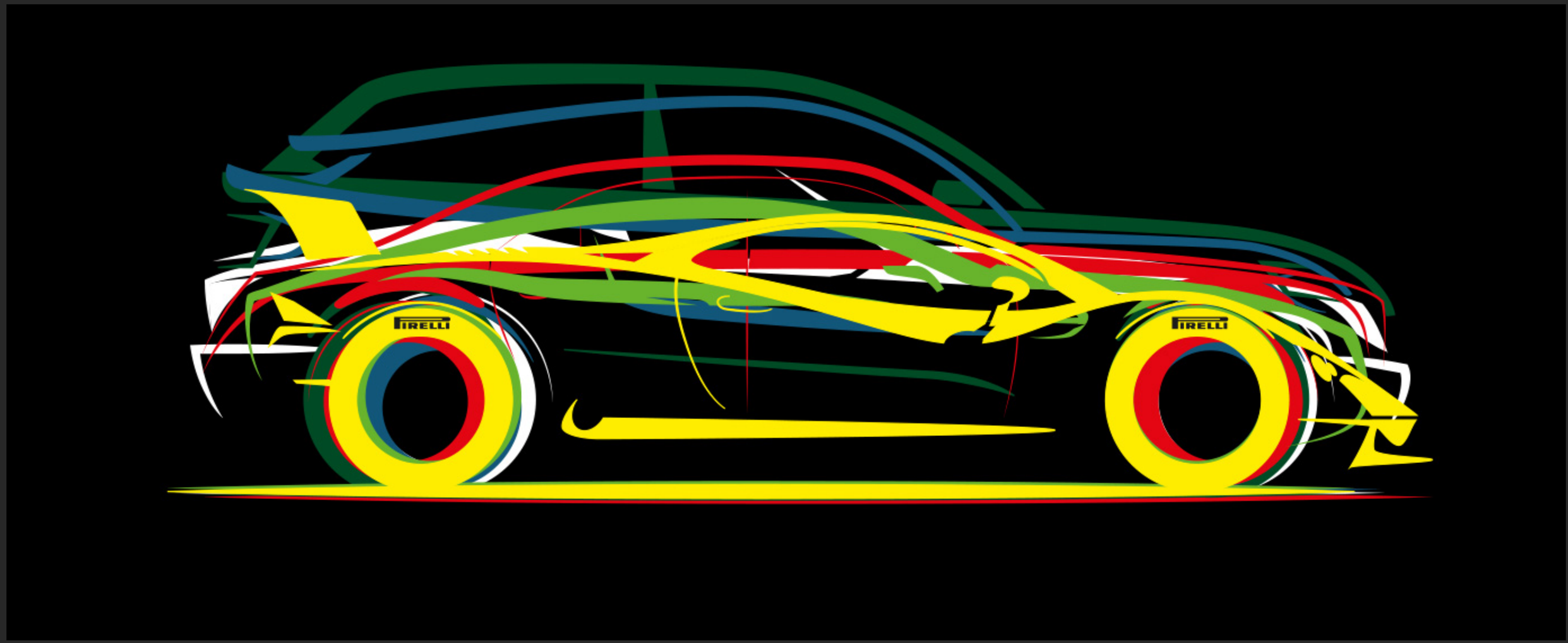
Pirelli

Every company is a tech company



Datadog

Pirelli: A pure tire company…

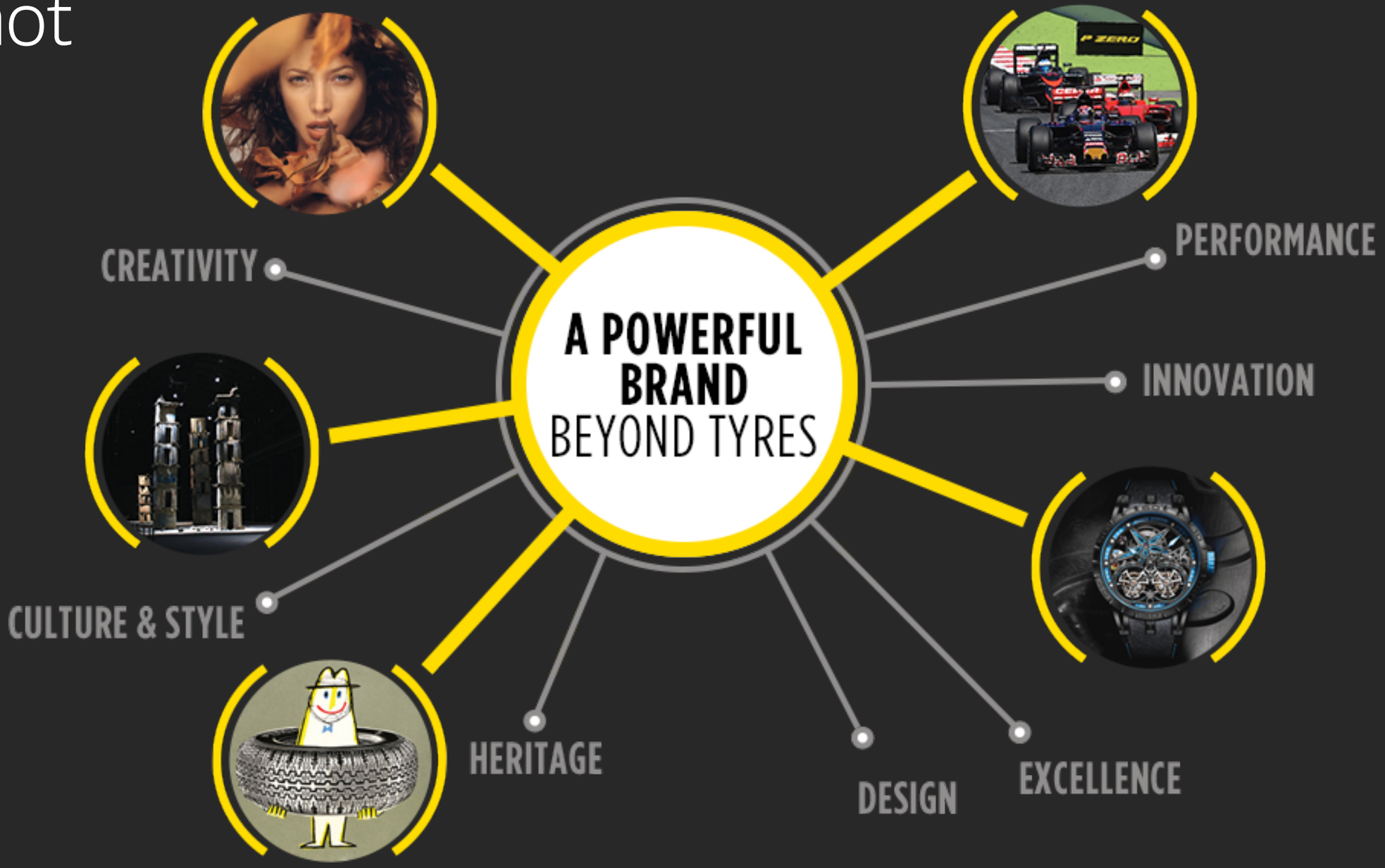
Cars

Moto

Motorsport

Bicycling

…or not


A POWERFUL BRAND
BEYOND TYRES
CREATIVITY
PERFORMANCE
INNOVATION
CULTURE & STYLE
HERITAGE
DESIGN
EXCELLENCE
P ZERO

Pirelli’s focus

High-end and prestige markets

Premium products

Prestige brand

From whence we came

Standard story: everything on-prem at data centers and in factories

Moving to the cloud…

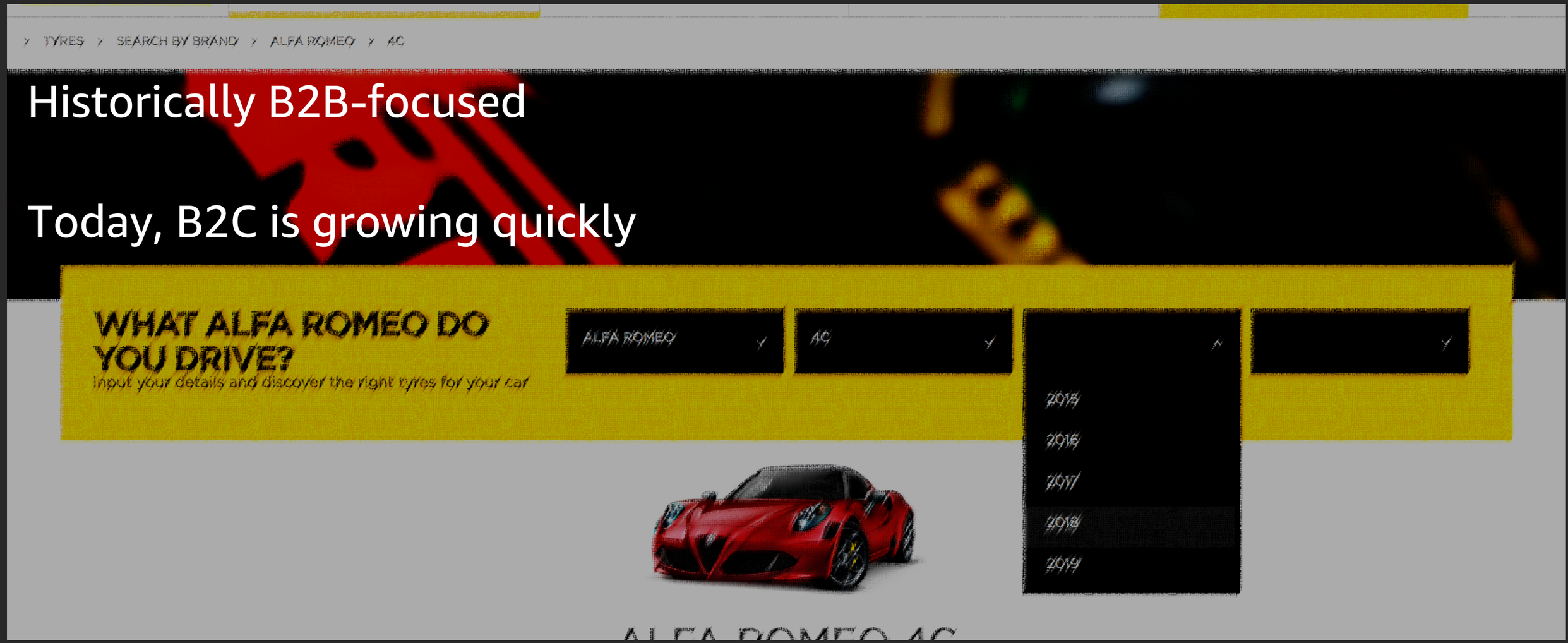
Nearly 150 years of legacy

More than just software

B2B and B2C

Historically B2B-focused

Today, B2C is growing quickly



The past: pretty good!

Built progressively and from organic needs

State of the art, at the time

Focus

Core system priorities

Protecting trade secrets

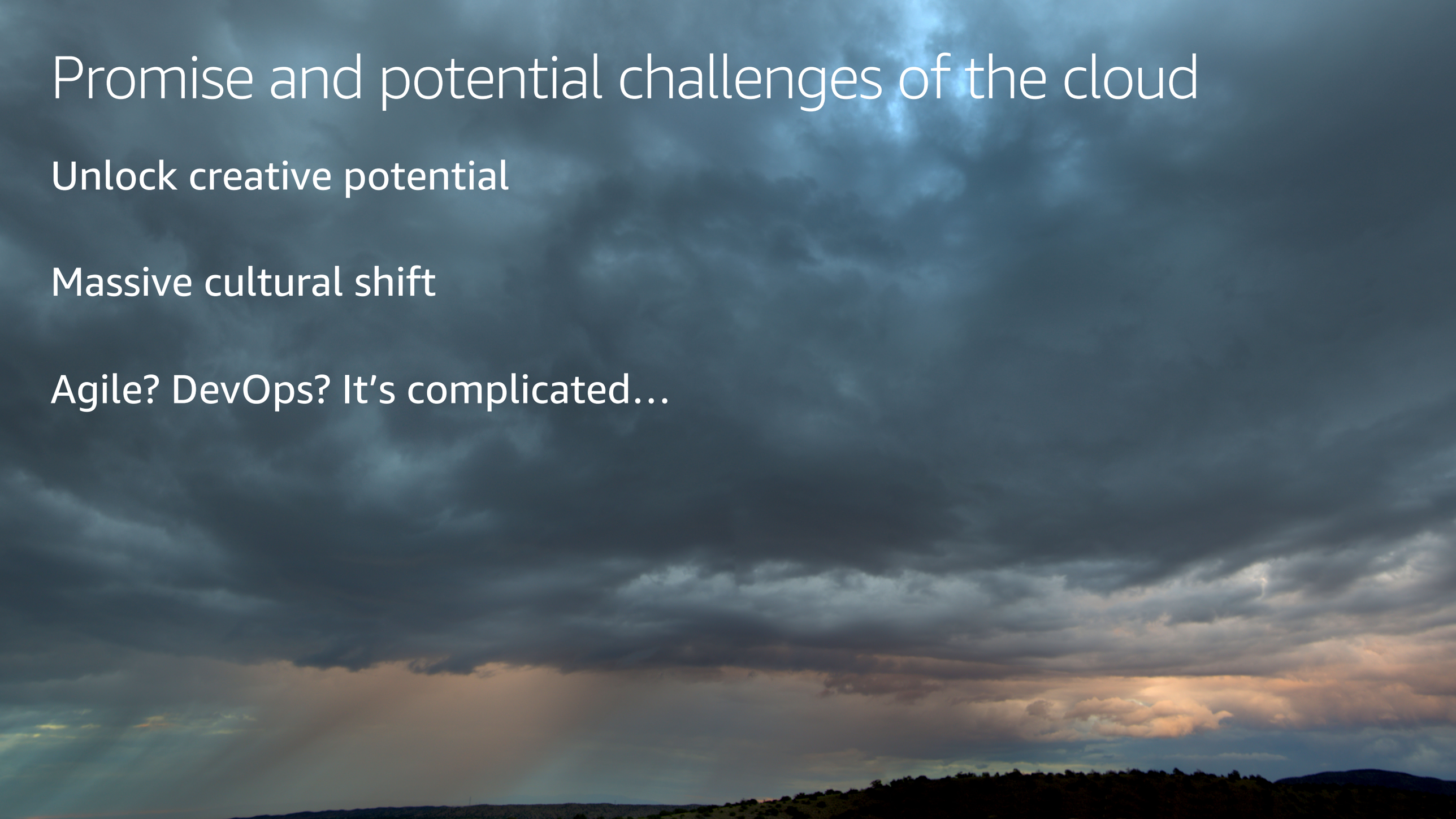
Securing sensitive data

Promise and potential challenges of the cloud

Unlock creative potential

Massive cultural shift

Agile? DevOps? It’s complicated…

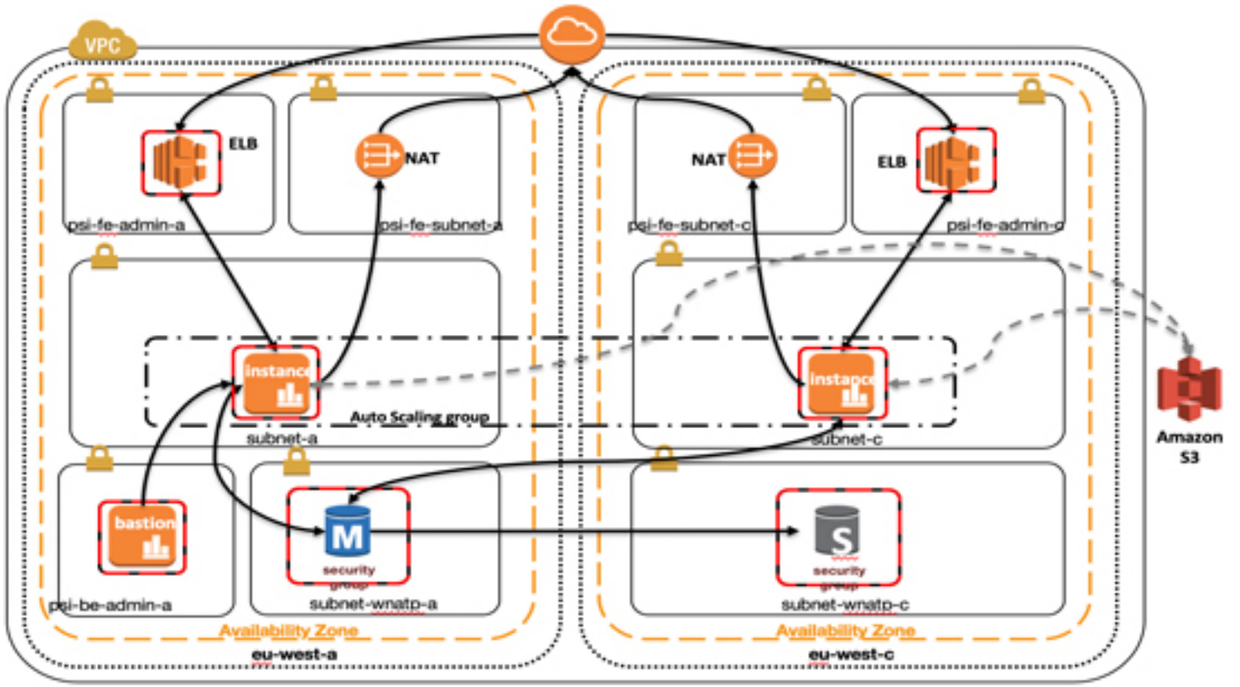


The first phase

Brand new team with a
big responsibility

Lift and shift

Let’s talk tech



Advantages of the first phase

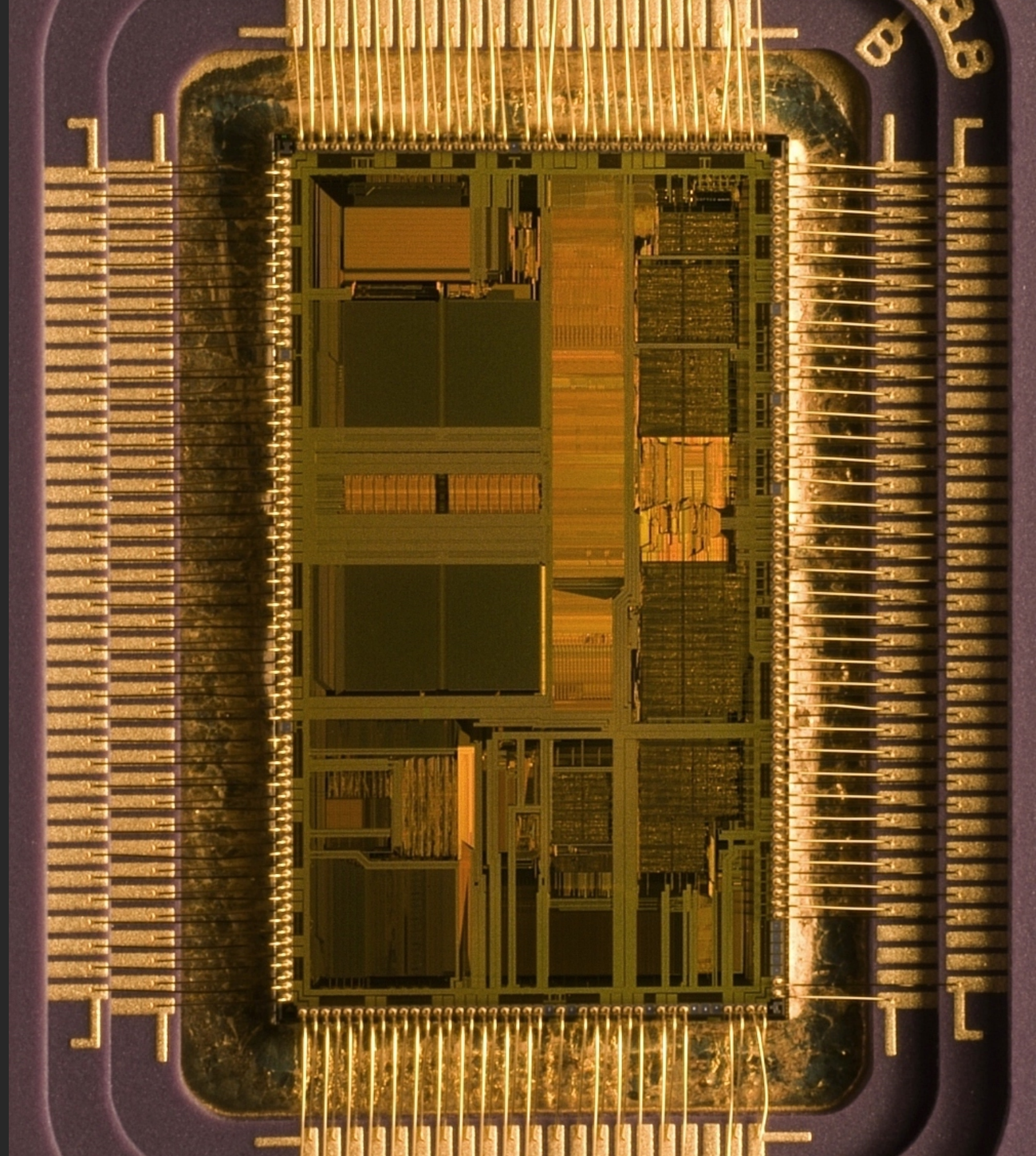
Technical advantages? Sure.

Business advantages? *Sì!*

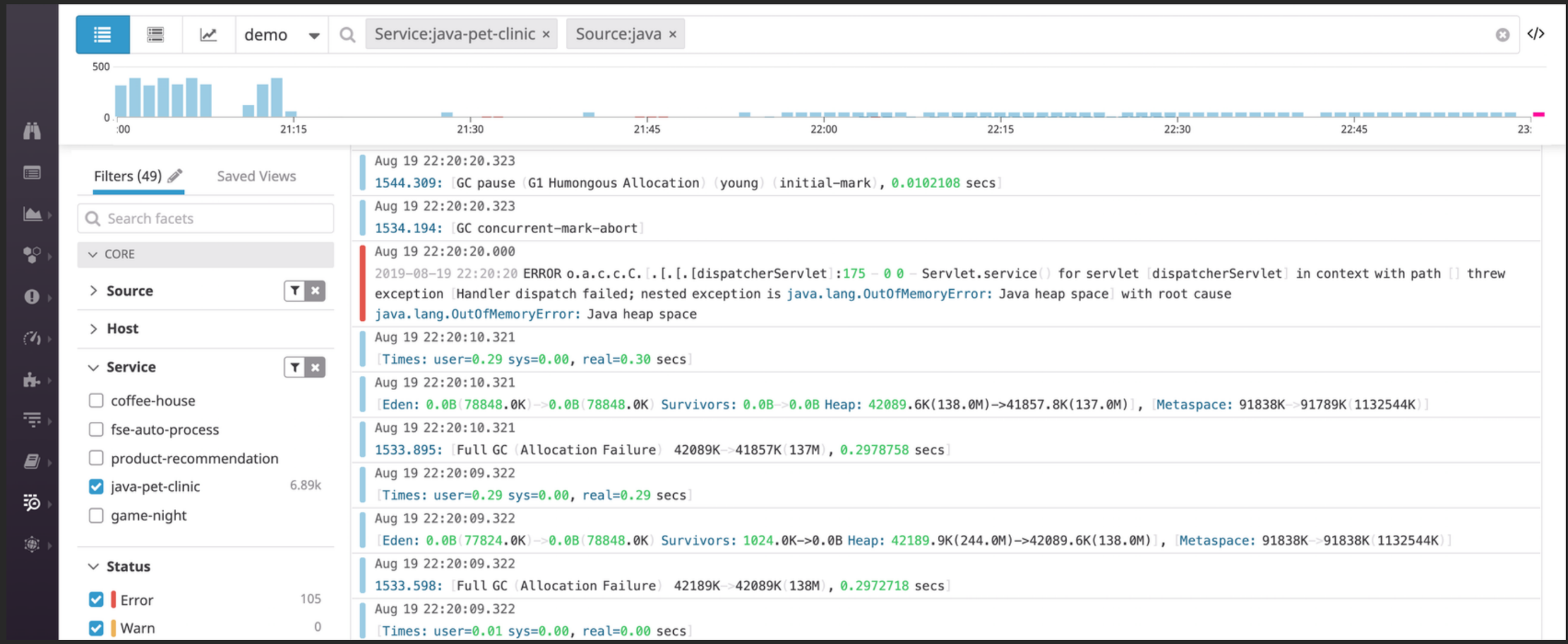
Observability: required

Monitoring isn’t enough

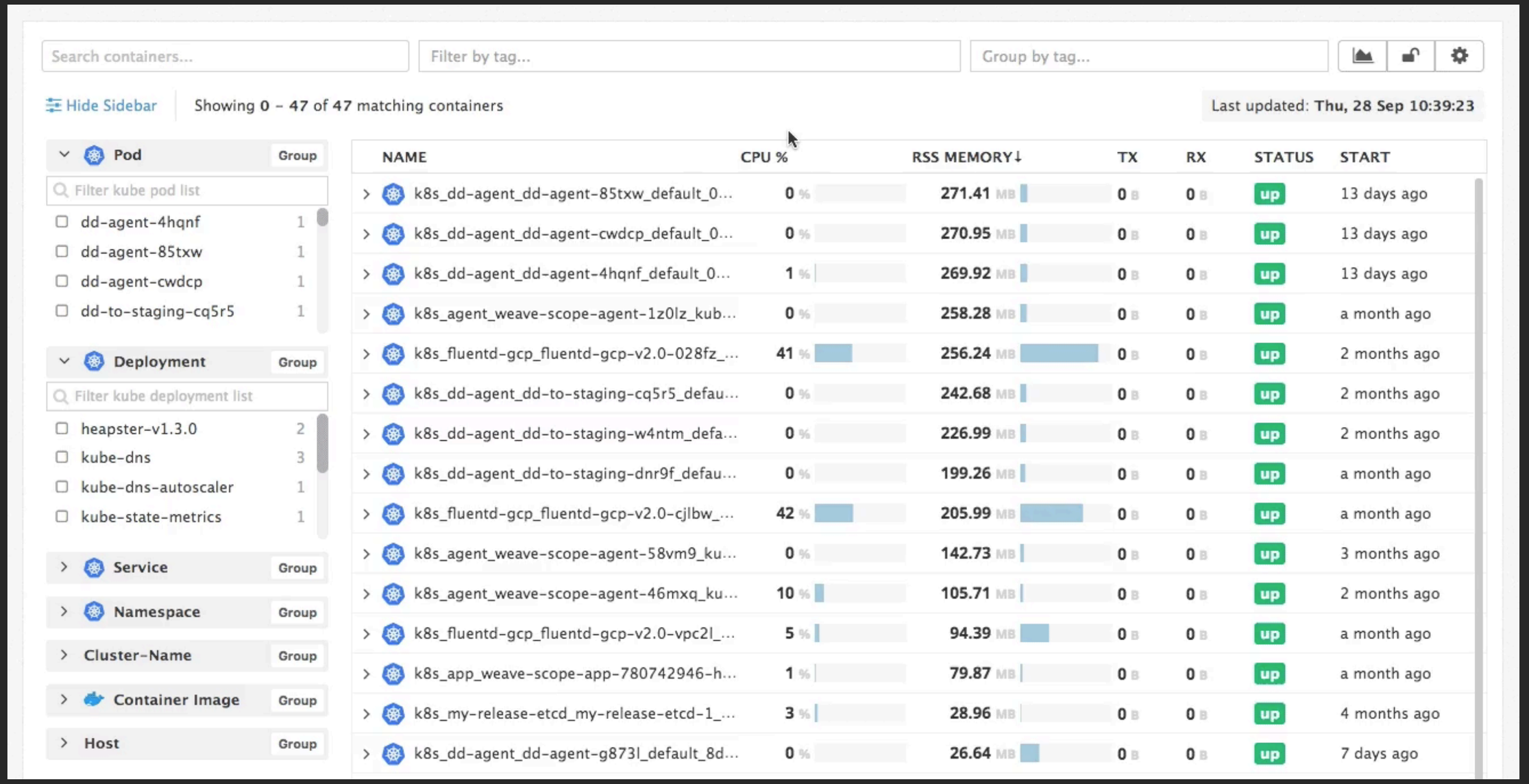
Partner with an expert



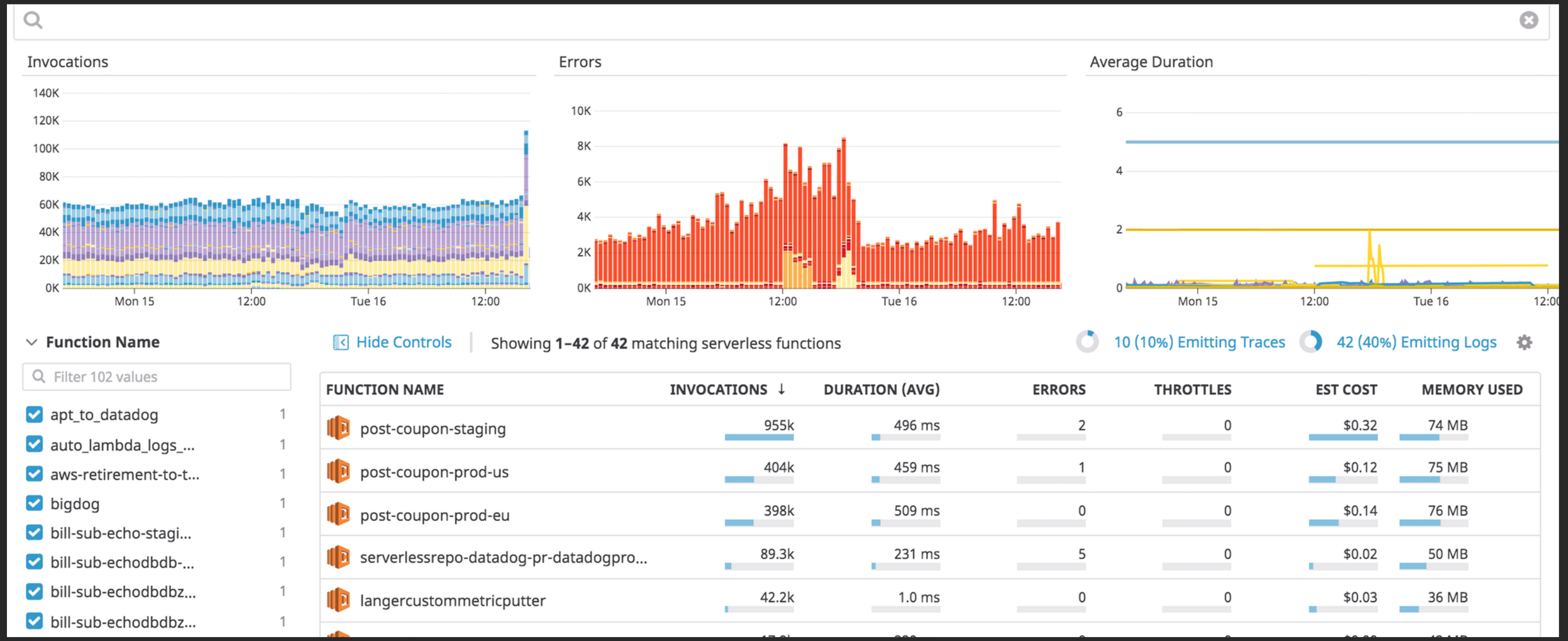
What is Observability?



Increasing complexity and scale



An holistic, multi-dimensional approach



Story time!

Critical B2C service crossing multiple segments and teams

Chasing problems; chasing ghosts…

Everybody needs friends

Growing internally and externally

AWS collaboration

Datadog collaboration

The second phase

Level-up: new tech, new culture

Move faster *and* safer

Docker for all!

No lifting and shifting; need to re-architect things

Containerization is definitely faster, but is it safer?

Trust, but verify

Rapid prototyping

Managed services

Infrastructure concerns

Serverless (Lambda)

What is it?

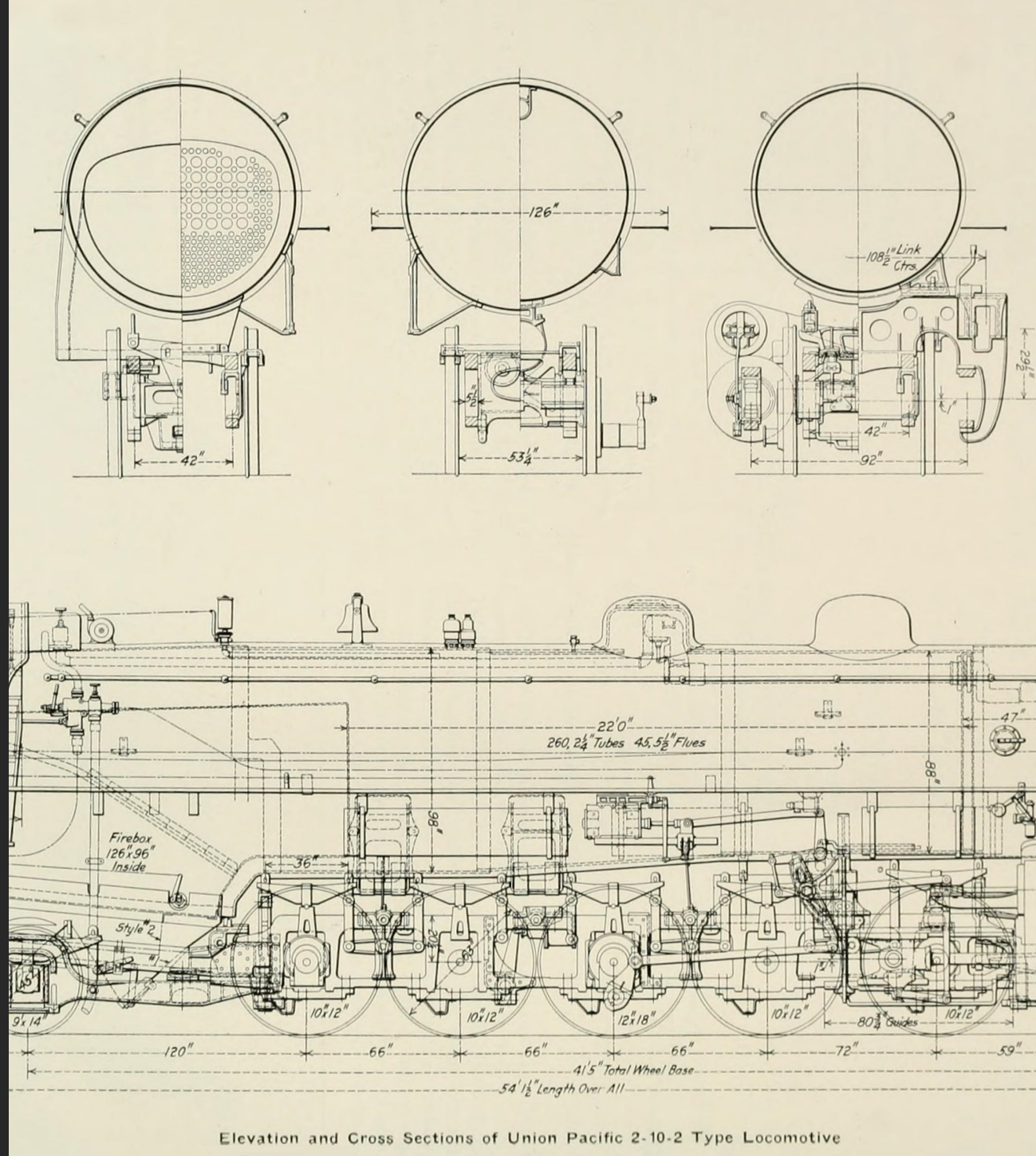
Works for some things, but not for others

Operational advantages and concerns

Serverless, a practical example

APIs are often good candidates for serverless

May require significant design and implementation changes



Elevation and Cross Sections of Union Pacific 2-10-2 Type Locomotive

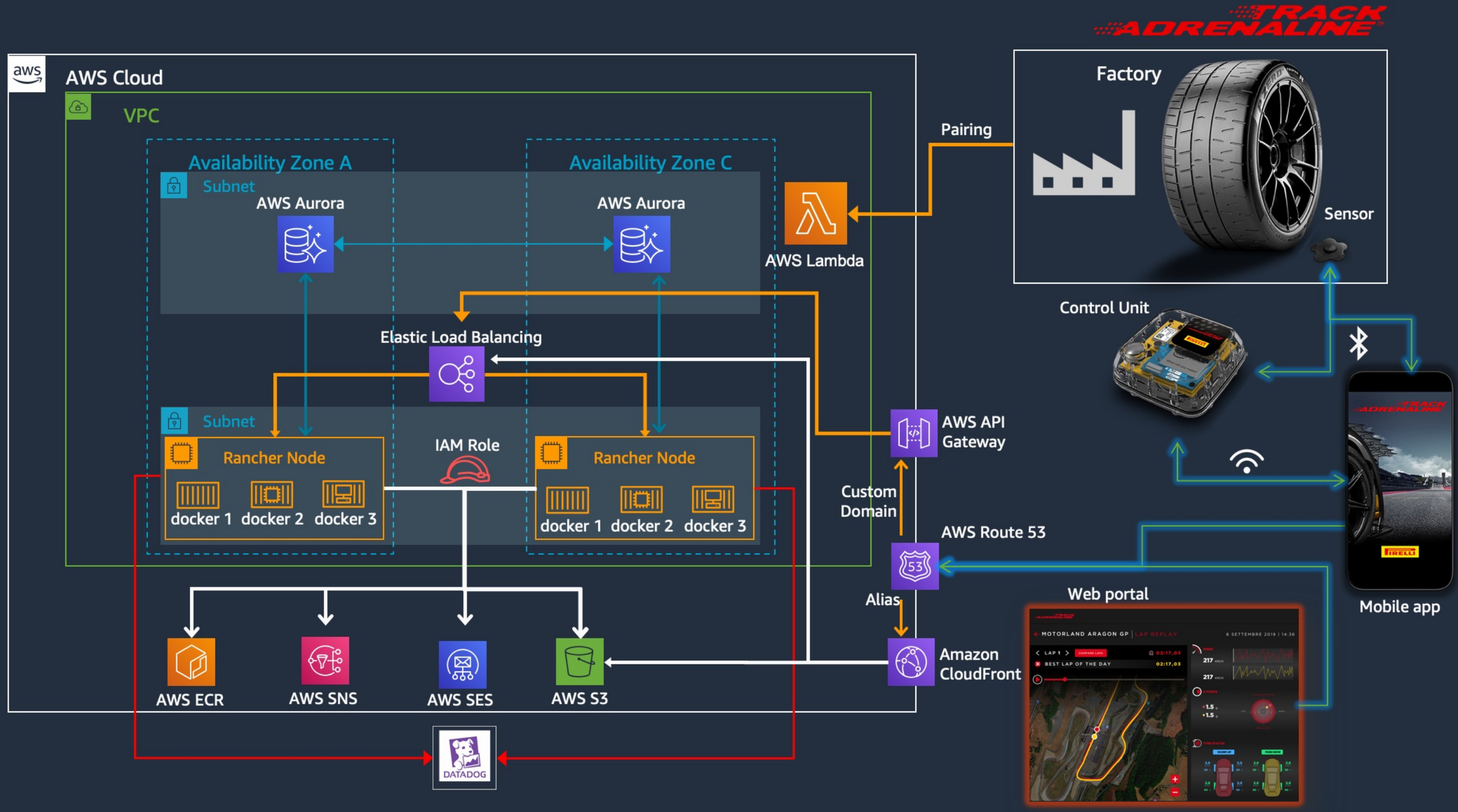
Some of the cool things we're building

Racing on tracks

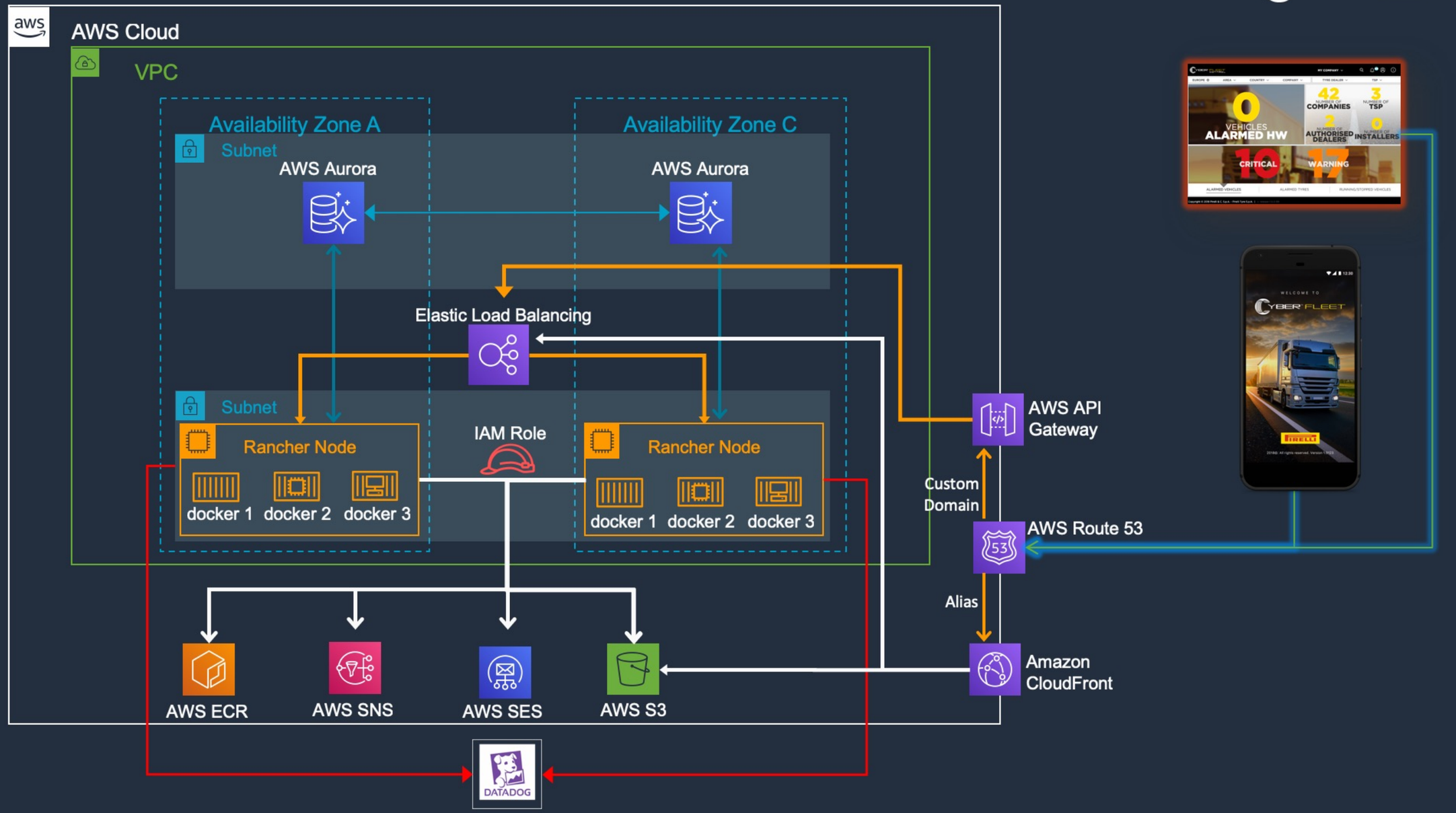
Managing truck fleets

Sustainable mobility

TRACK
ADRENALINE™

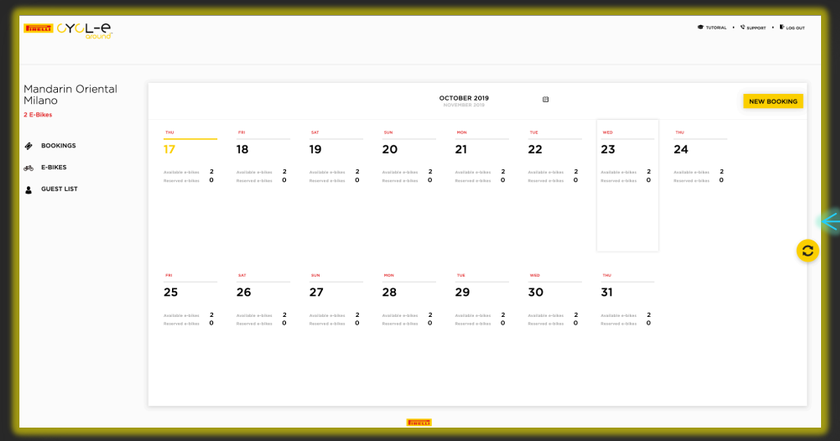

TRACK ADRENALINE
AWS Cloud
VPC
Availability Zone A
Availability Zone C
Subnet
AWS Aurora
AWS Aurora
AWS Lambda
Pairing
Factory
Sensor
Control Unit
Elastic Load Balancing
Subnet
Rancher Node
docker 1
docker 2
docker 3
IAM Role
Rancher Node
docker 1
docker 2
docker 3
AWS API Gateway
Custom Domain
AWS Route 53
Alias
Web portal
Mobile app
Amazon CloudFront
AWS ECR
AWS SNS
AWS SES
AWS S3
DATADOG

SOLUTIONS TO **ENHANCE YOUR** TRANSPORT **BUSINESS**


CYBER FLEET
aws
AWS Cloud
VPC
Availability Zone A
Subnet
AWS Aurora
Availability Zone C
AWS Aurora
Elastic Load Balancing
Subnet
Rancher Node
docker 1
docker 2
docker 3
IAM Role
Rancher Node
docker 1
docker 2
docker 3
AWS API Gateway
Custom Domain
AWS Route 53
Alias
Amazon CloudFront
AWS ECR
AWS SNS
AWS SES
AWS S3
DATADOG
0
VEHICLES ALARMED HW
42
NUMBER OF COMPANIES
3
NUMBER OF TSP
2
NUMBER OF AUTHORISED DEALERS
0
NUMBER OF INSTALLERS
CRITICAL
10
WARNING
17
WELCOME TO
CYBER FLEET

PIRELLI

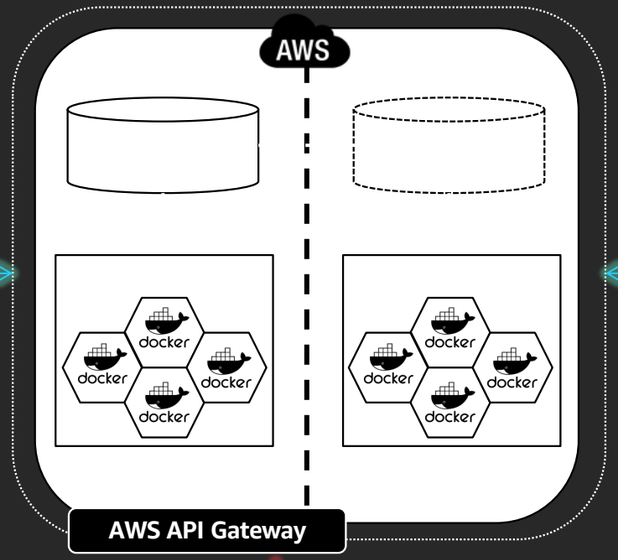
CYCL-e around™



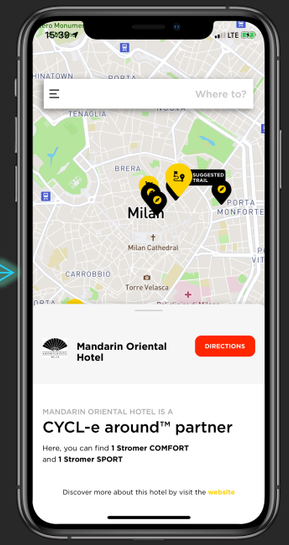
Web front end (AngularJS, Redux)

https://cycle-api.pirelli.digital

http (REST)

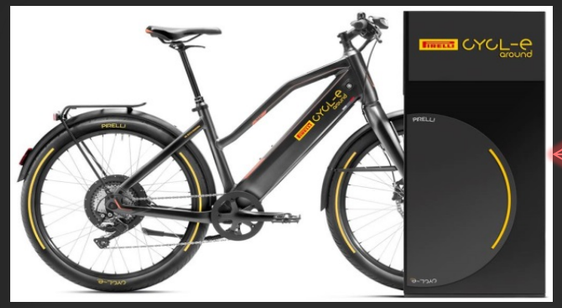


http (REST)

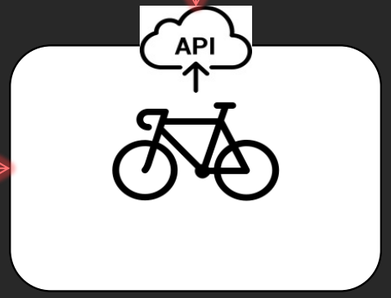


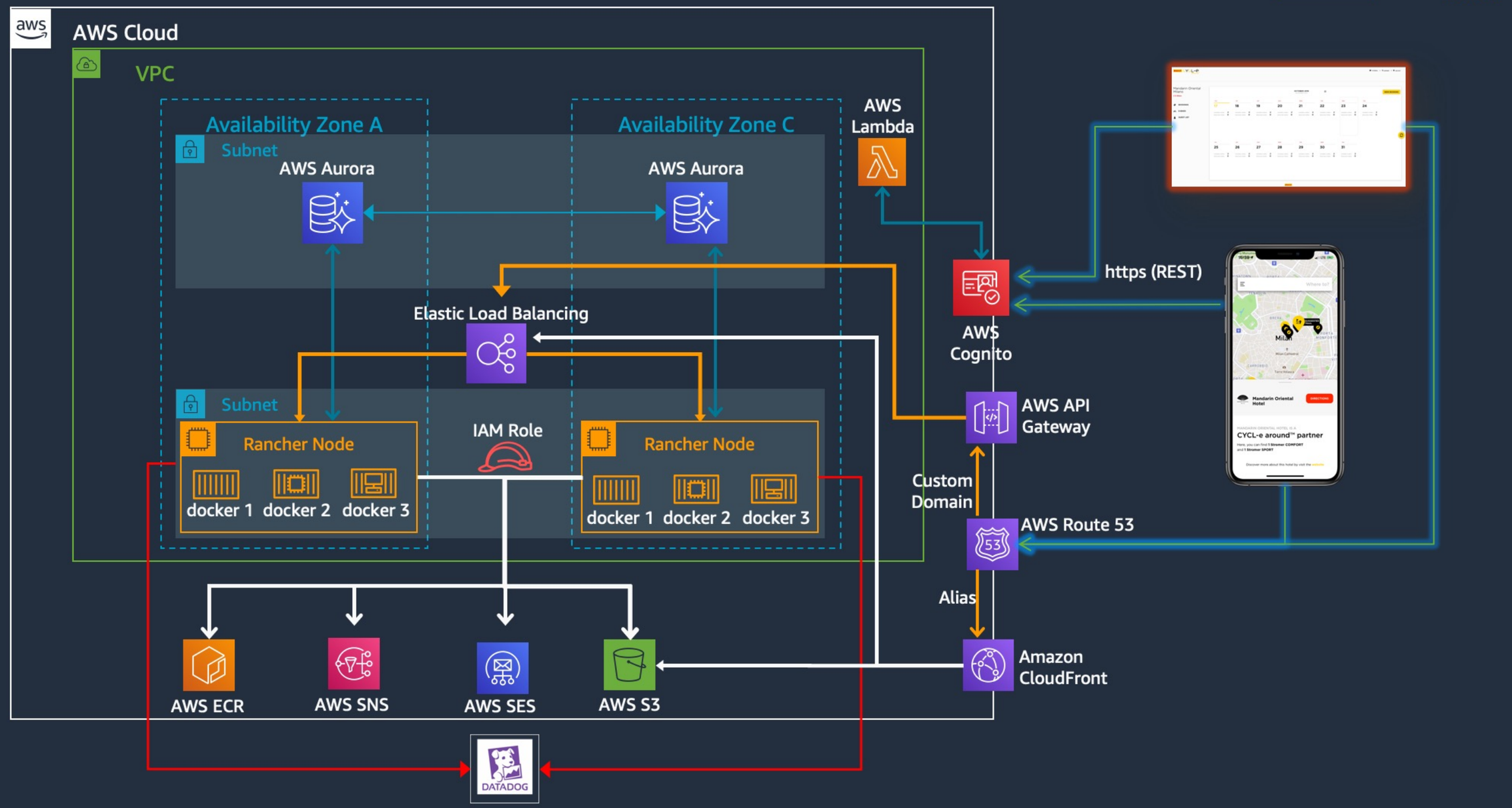
Native iOS and Android App

http (REST)



2G/3G Half Duplex

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AWS Route 53
Alias
Amazon CloudFront
AWS ECR
AWS SNS
AWS SES
AWS S3
DATADOG
Milan
Mandarin Oriental Hotel
CYCL-e around™ partner

Setting standards

Provide guidance to teams both internally and externally

Not dogma—adaptability is key!

Future improvements; the third phase

AWS Landing Zone

Improved observability story

Secrets management

Thank you!

Roberto Delrosso
Digital Innovation Lead
Pirelli

Daniel Maher
Developer Relations
Datadog

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