AWS SEMICONDUCTOR & HITECH SOLUTIONS

Semiconductor Innovation Enabled by AWS

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Semiconductor

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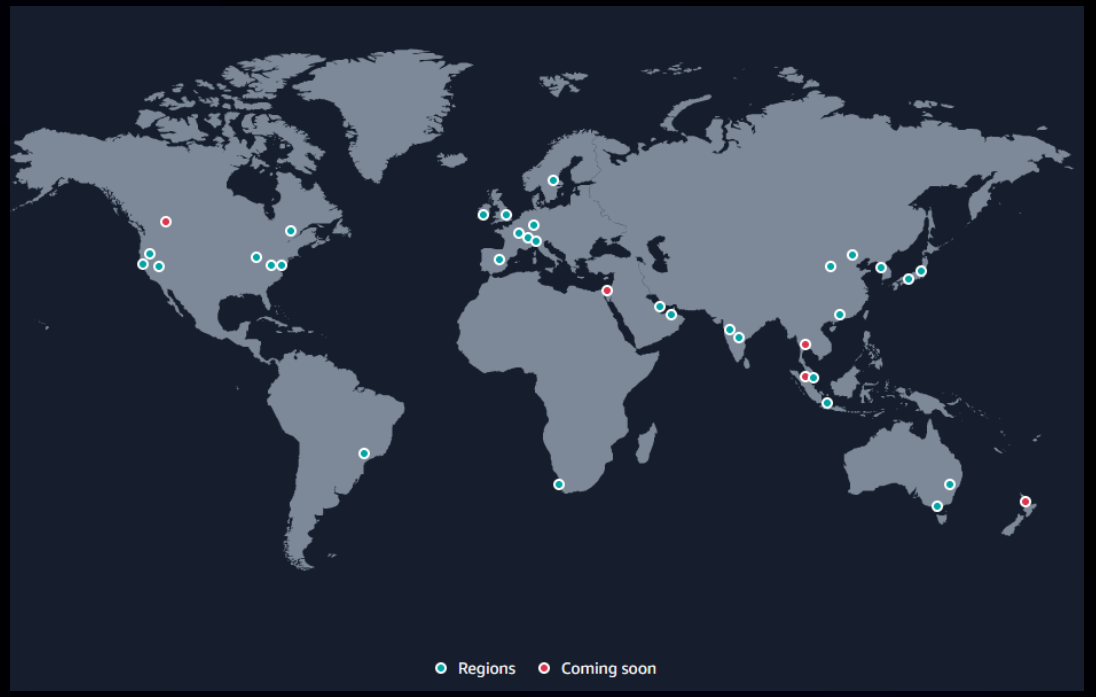
AWS Cloud

AWS provides highly reliable, scalable, low-cost infrastructure in 31 global regions, powering millions of businesses in 245 countries and territories around the world. Over 200 fully featured services.

31 geographic regions
A region is a physical location in the world where we have multiple Availability Zones

99 Availability Zones, 32 Local Zones
Distinct locations that are engineered to be insulated from failures in other Availability Zones

450+ Points of Presence with 400+ Edge Locations and 13 Regional Edge Caches



Benefits

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

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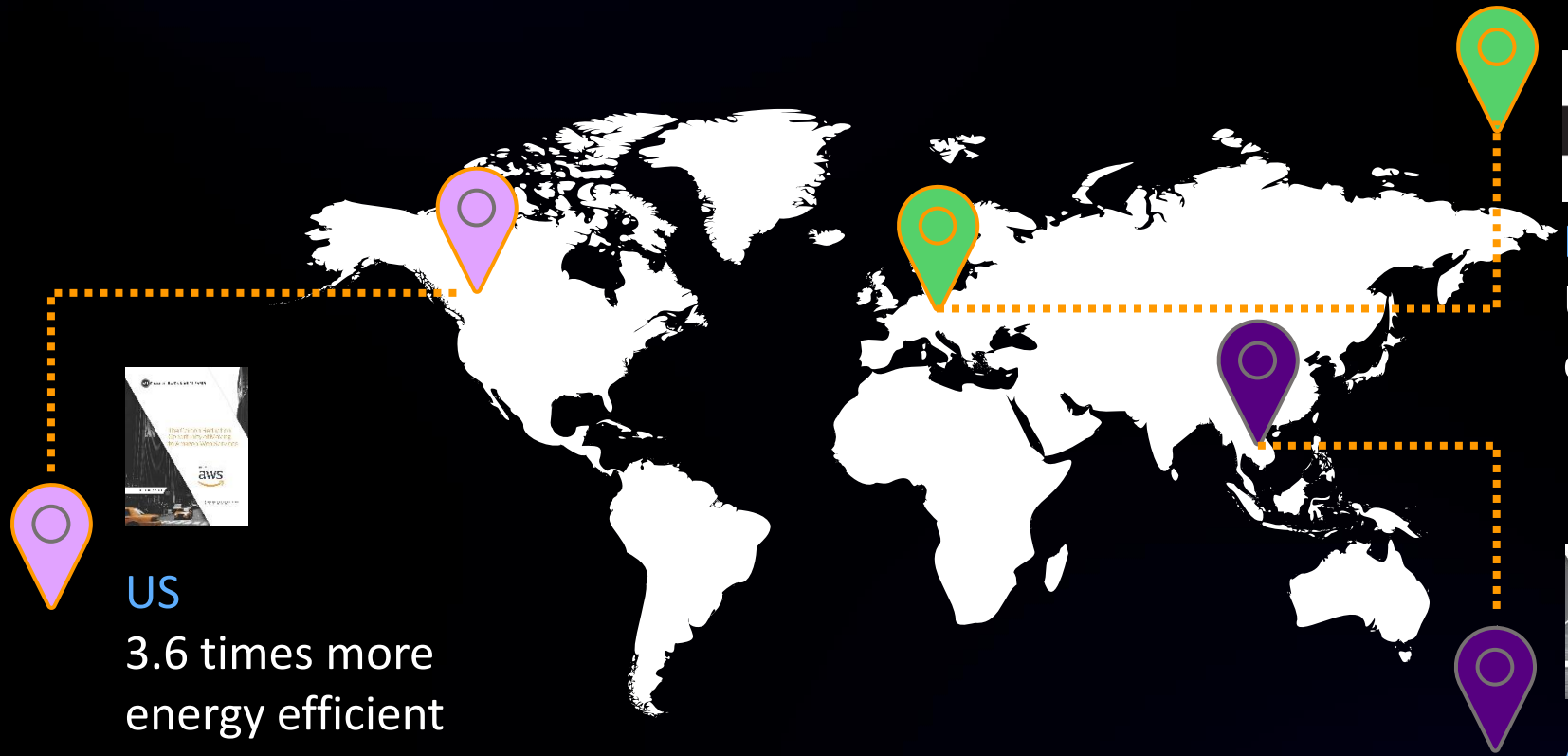
AWS Cloud helps enterprises meet sustainability goals

AWS Cloud can lower the carbon footprint of average on-premises data center workloads by nearly 80% today, and up to 96% once AWS is powered with 100% renewable energy (2025 goal)



US
3.6 times more energy efficient

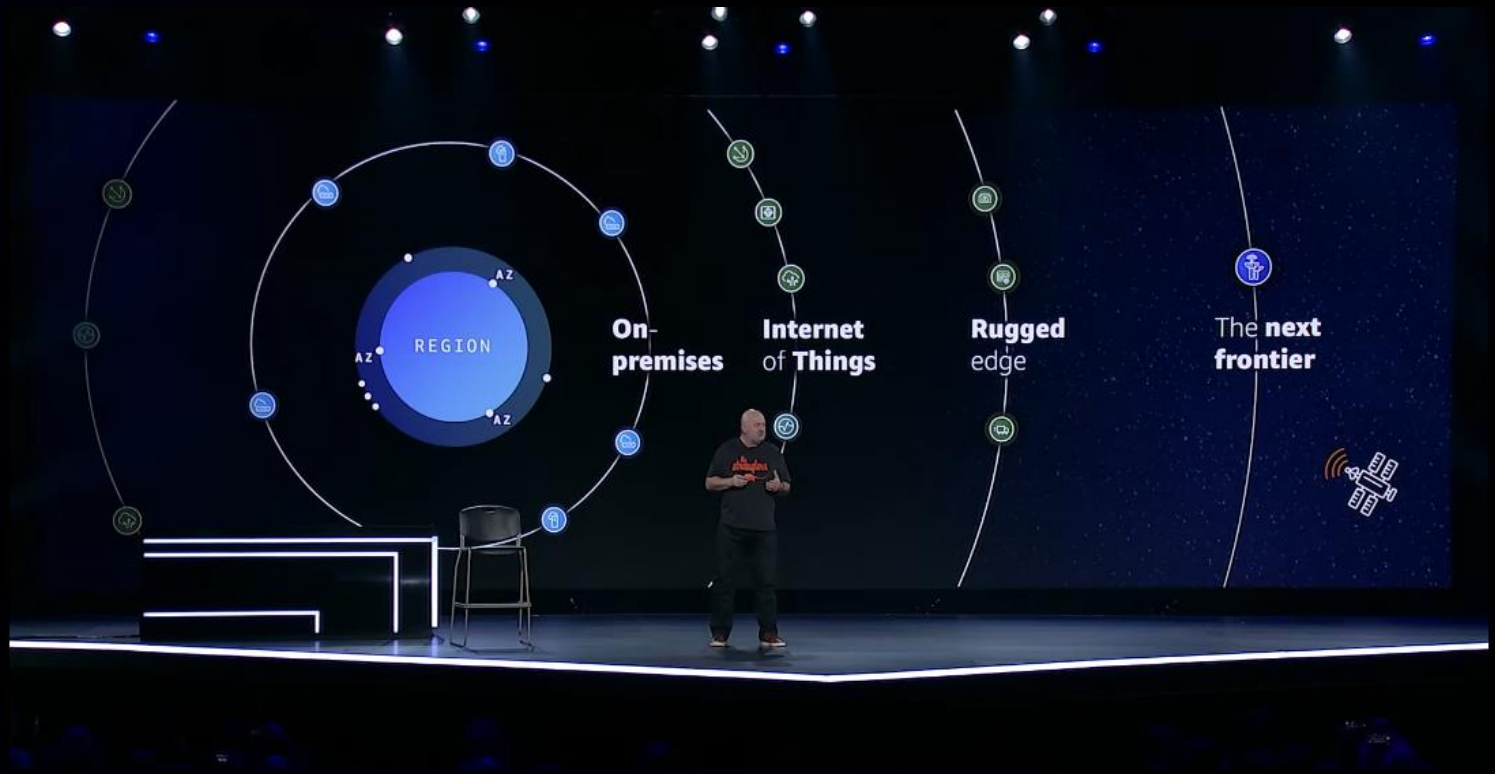
Europe
Up to 5 times more energy efficient

Asia Pacific
5 times more energy efficient

Find all the reports on aws.amazon.com/sustainability/resources/

Cloud is more than just datacenters

- Regions
- Availability Zones
- Local Zones
- Wavelength (5G) Zones
- Serverless compute
- Tiered storage services
- Managed databases
- Edge and IoT services
- Rugged edge services
- Satellite services
- AI/ML services
- Quantum computing…
- …and much more



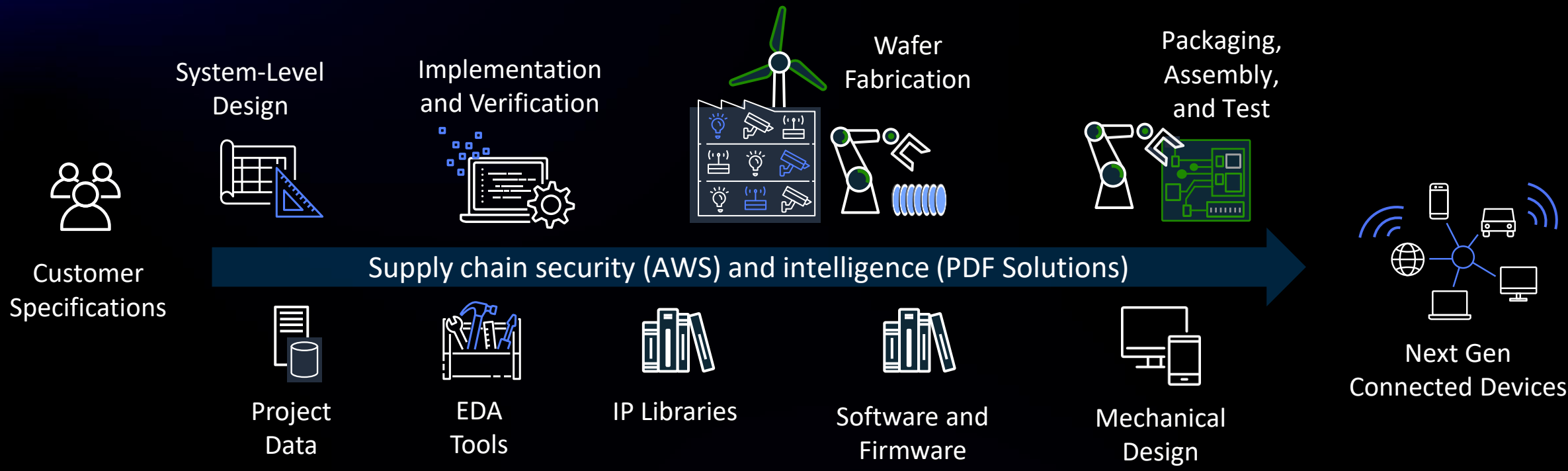
Amazon is a Fabless Semiconductor Company

We design our own silicon devices, and we source from a global supply chain

Amazon develops and uses semiconductor devices for

- AWS data center infrastructure
- Amazon fulfillment centers
- Consumer devices
- Robotics and AI
- Space and satellite infrastructure
- Autonomous vehicles
- And more

Bridging the semiconductor supply chain with data



Smart Design Smart Verification Smart Fab Smart Products

Accelerated and secured by cloud

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Semiconductor Smart Manufacturing Use Cases

Industry sectors include

Fabless semiconductor

Semiconductor foundry and packaging

Contract electronics manufacturers

Use-cases include

Yield Analytics

Overall Equipment Effectiveness (OEE)

Defect Detection

Predictive Maintenance

Intelligent Scheduling

Manufacturing Execution System (MES)

Digital Twin

Supply Chain Management

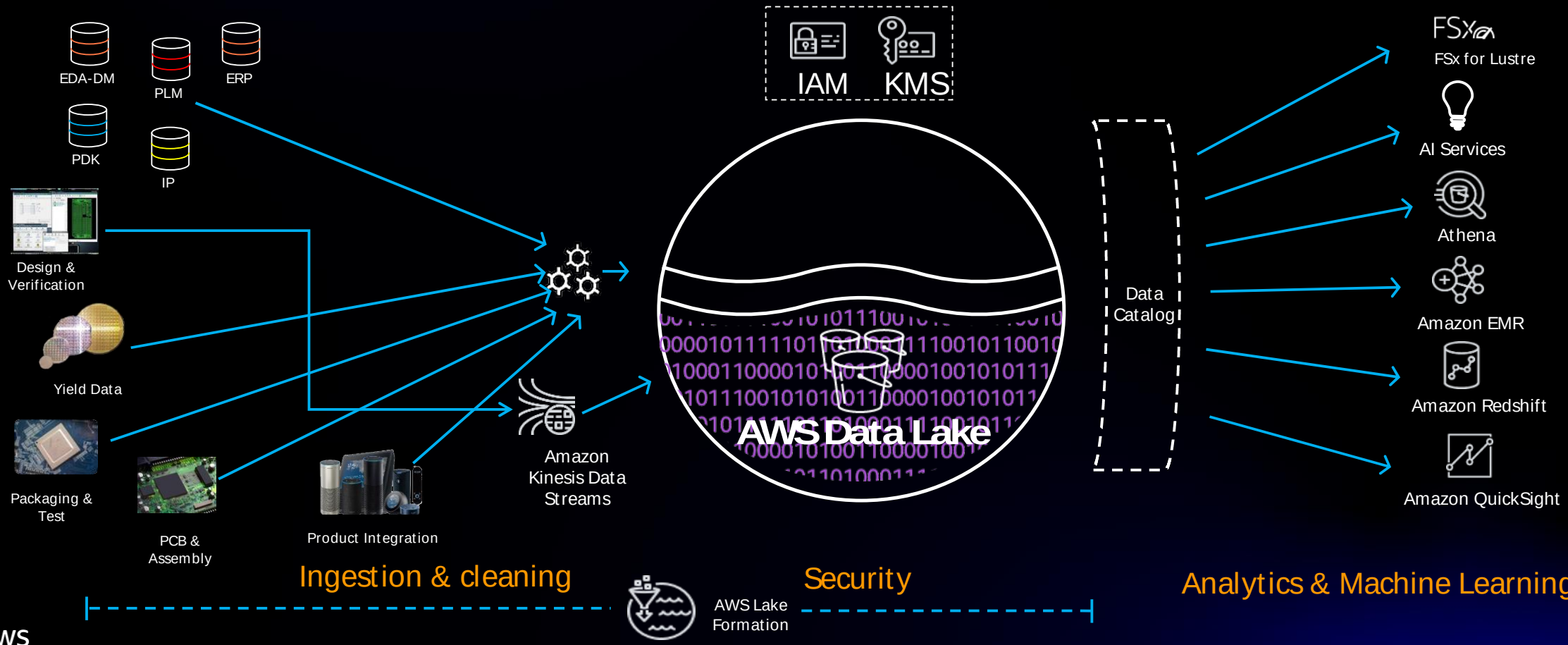
And much more

How to build such an ecosystem:

Build Data Lakes quickly
- Identify, crawl, and catalog sources
- Ingest and clean data
- Transform into optimal formats

Simplify security management
- Enforce encryption
- Define access policies
- Implement audit login

Enable self-service and combined analytics
- Data from single data catalog
- Choice of analytic tools



Exensio on AWS

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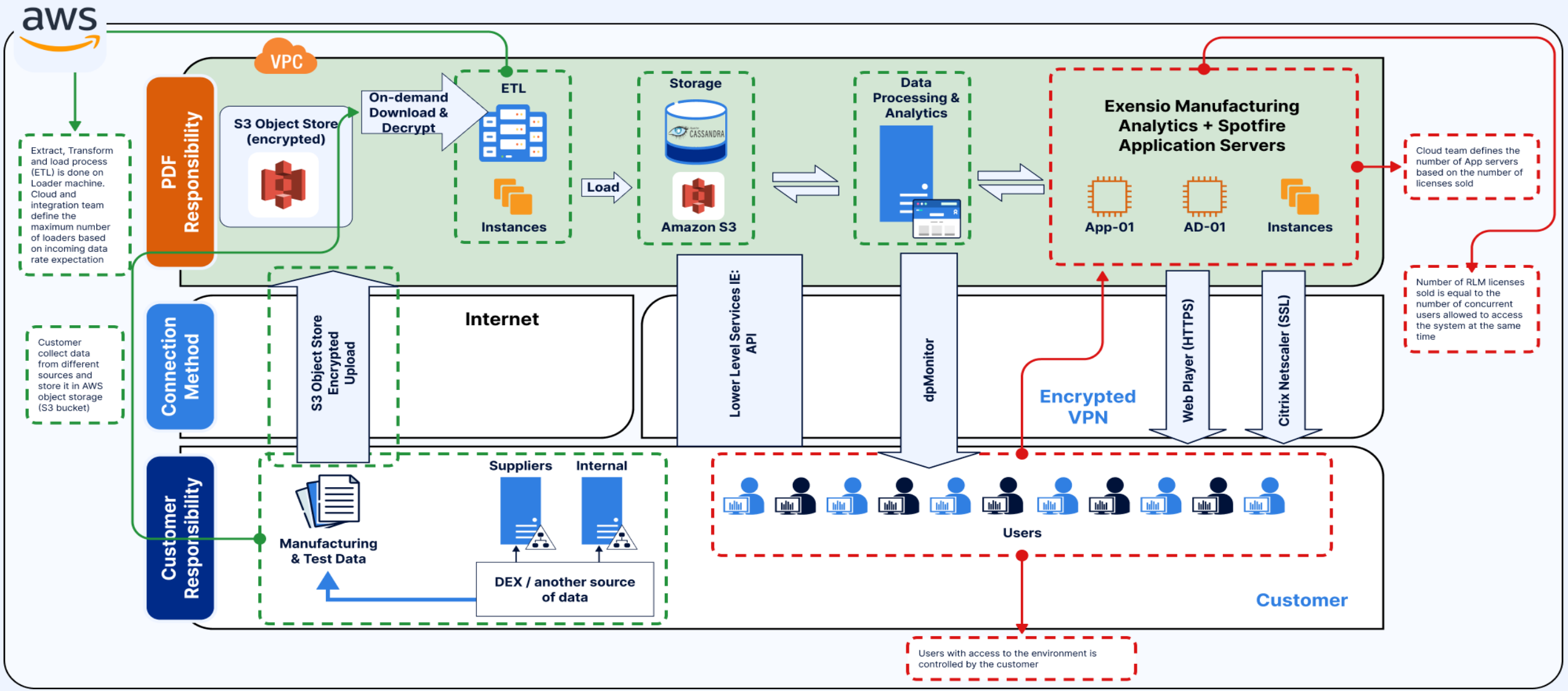
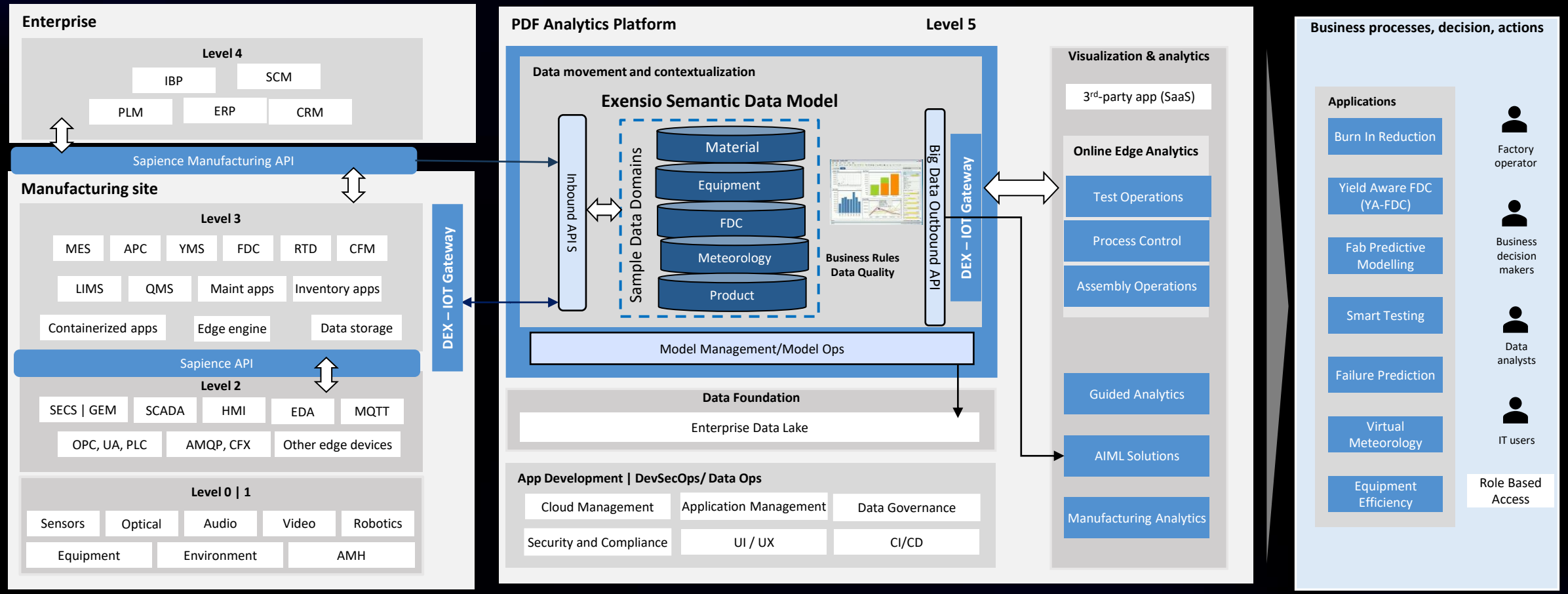


PDF's positioning in manufacturing data ecosystem

End-to-End Data Connectivity, Control and Analytics for Systems and Semiconductor Companies



[1] May be hosted at a site, regional, or global data center

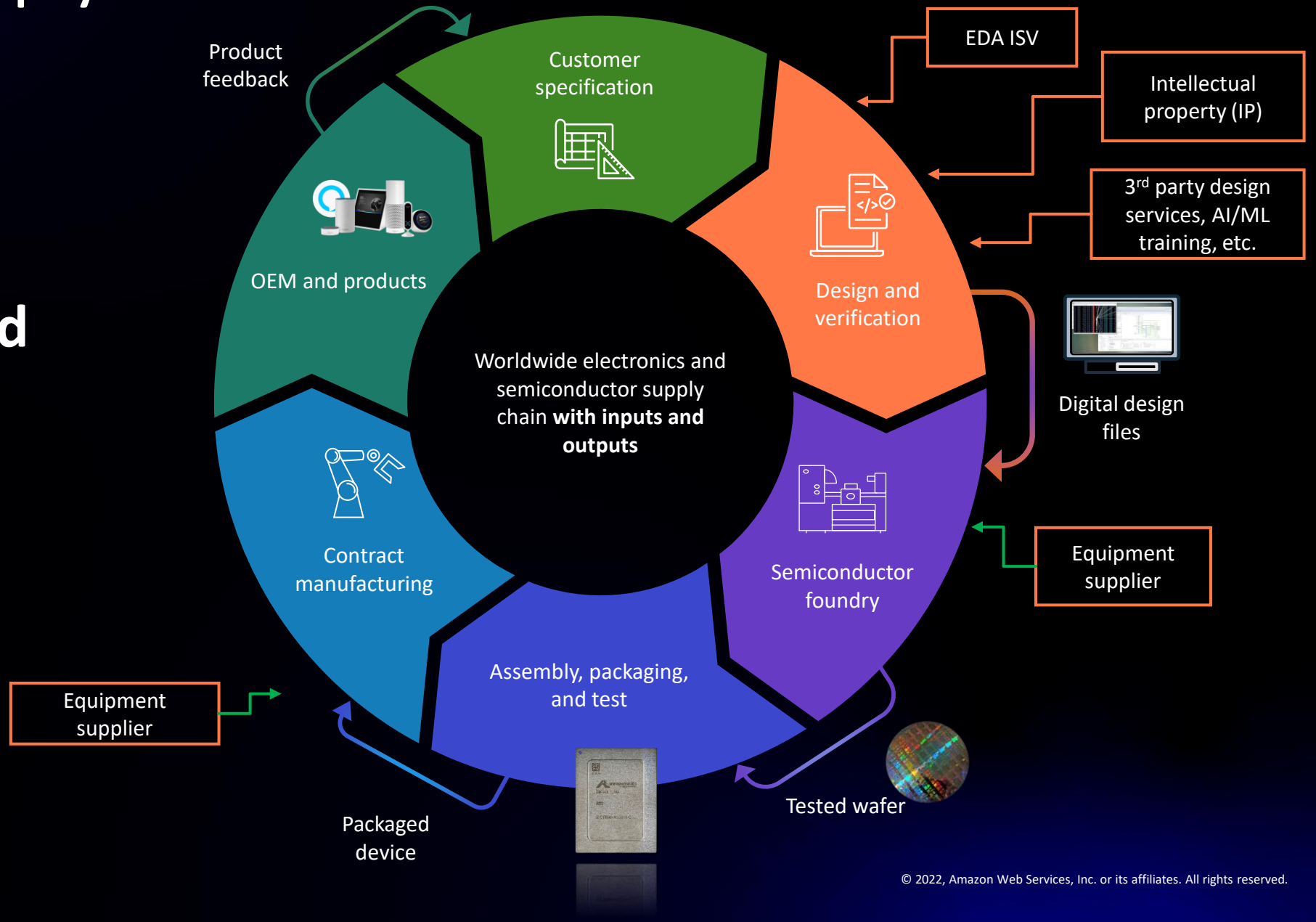
Industry insights

Users | Non-PDF | PDF

Core Capabilities

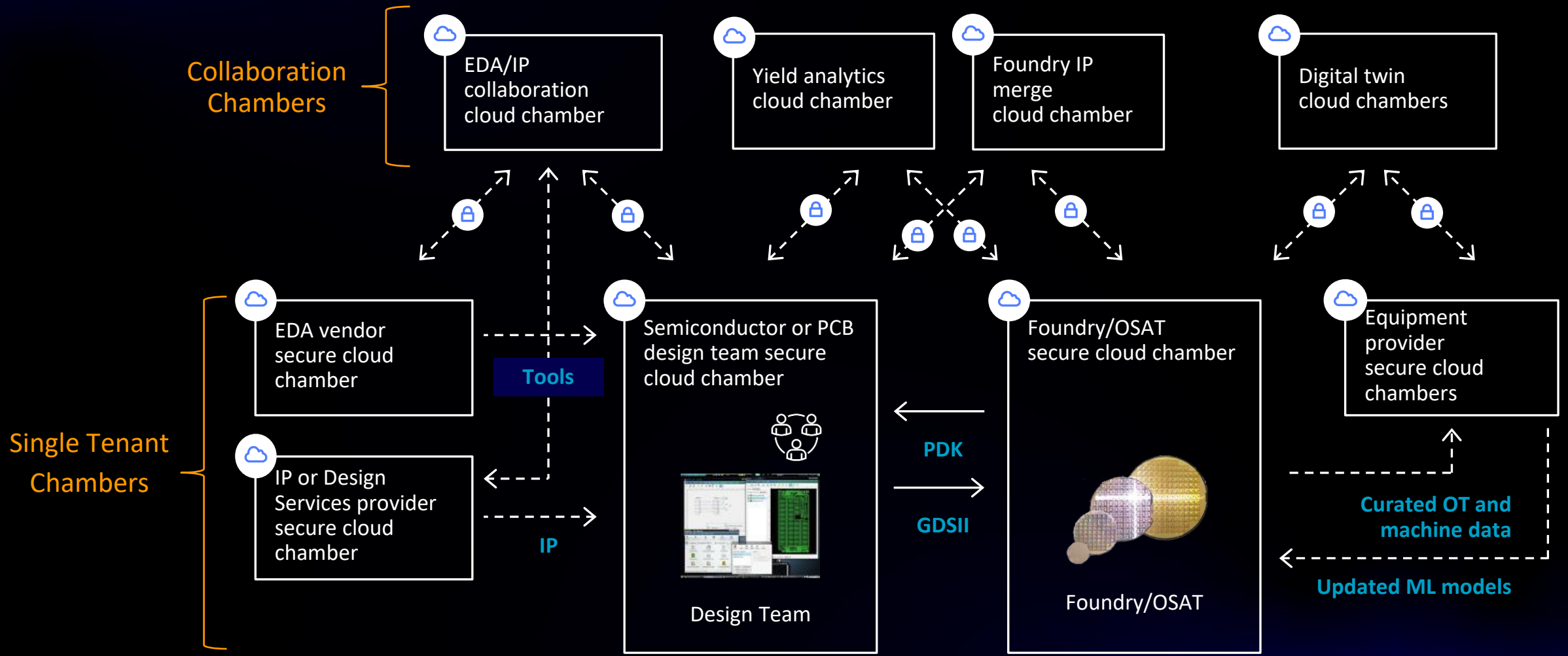
Electronics supply chain

Opportunities for **cloud-accelerated innovation**

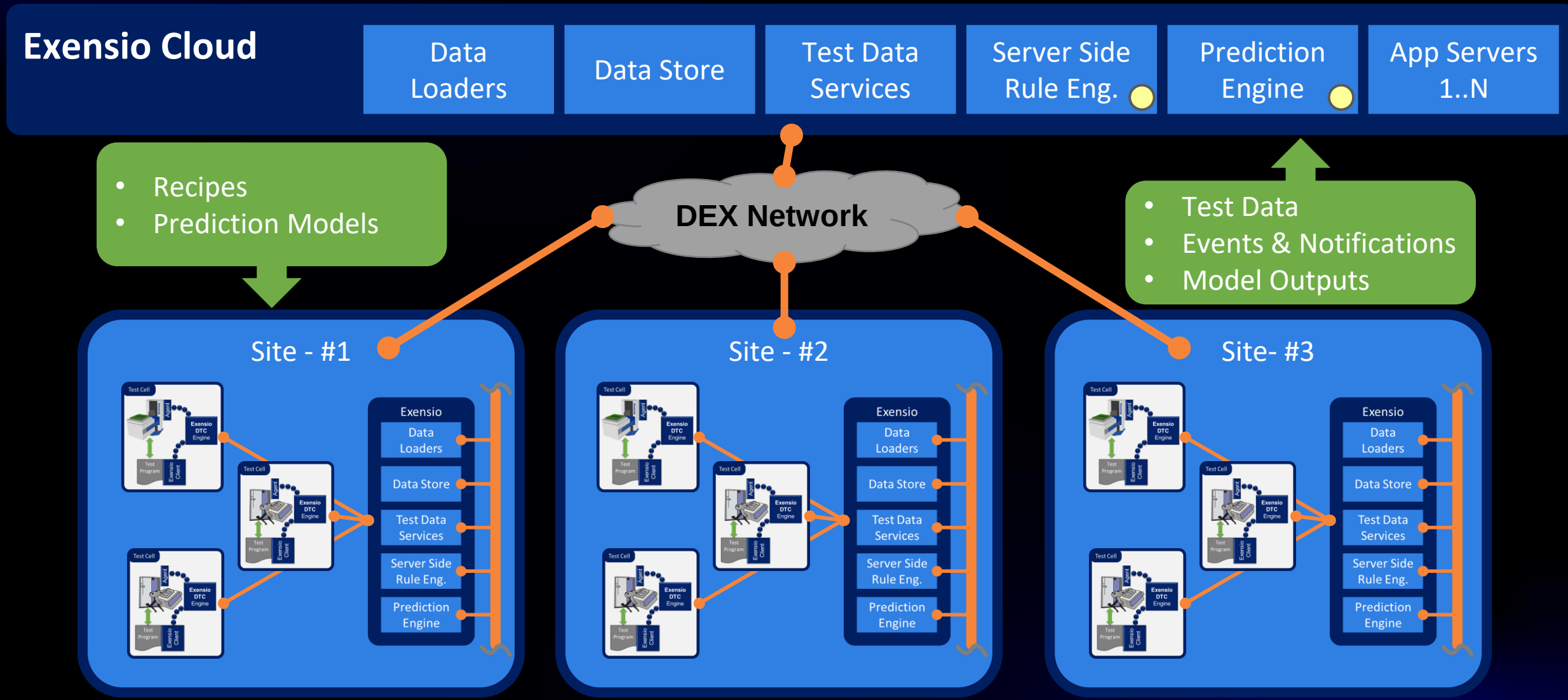


Cloud Enables Secure Collaboration – Use Case Examples

Many use-cases throughout the supply chain



Exensio CloudSite with Distributed DEX Network



Productivity Gain with Exensio on AWS

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Exensio Big-Data as measured against Pure RDBMS architecture (Systems with same cost)

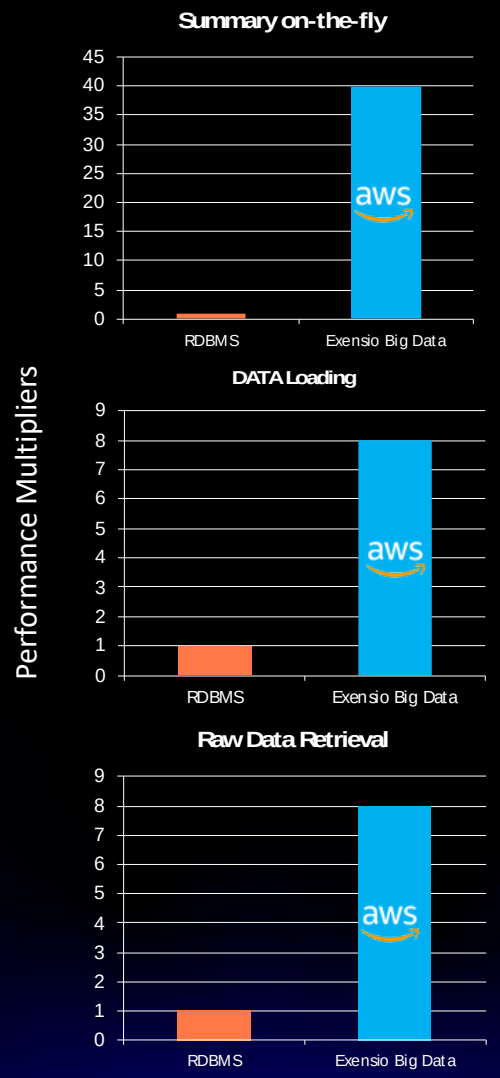
Challenge

- ~200 users located all over the world
- WAT, WS and FT data sources in many locations and technologies
- Alignment of different data types tedious or impossible

Value to the Customer

- ~20% efficiency gain for typical engineering analysis work
- $8M/year in productivity gains when users have benefits of PDF data management, and big data architecture

In the last 5-years 85% of new Exensio Manufacturing Analytics cusomters have deployed to the Cloud!



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Thank You !

Scan to learn more about AWS solutions for Hi-Tech Electronics & Semiconductor

https://aws.amazon.com/solutions/semiconductor-electronics/