Distribution Utility Meet (DUM)

27th Nov'2020

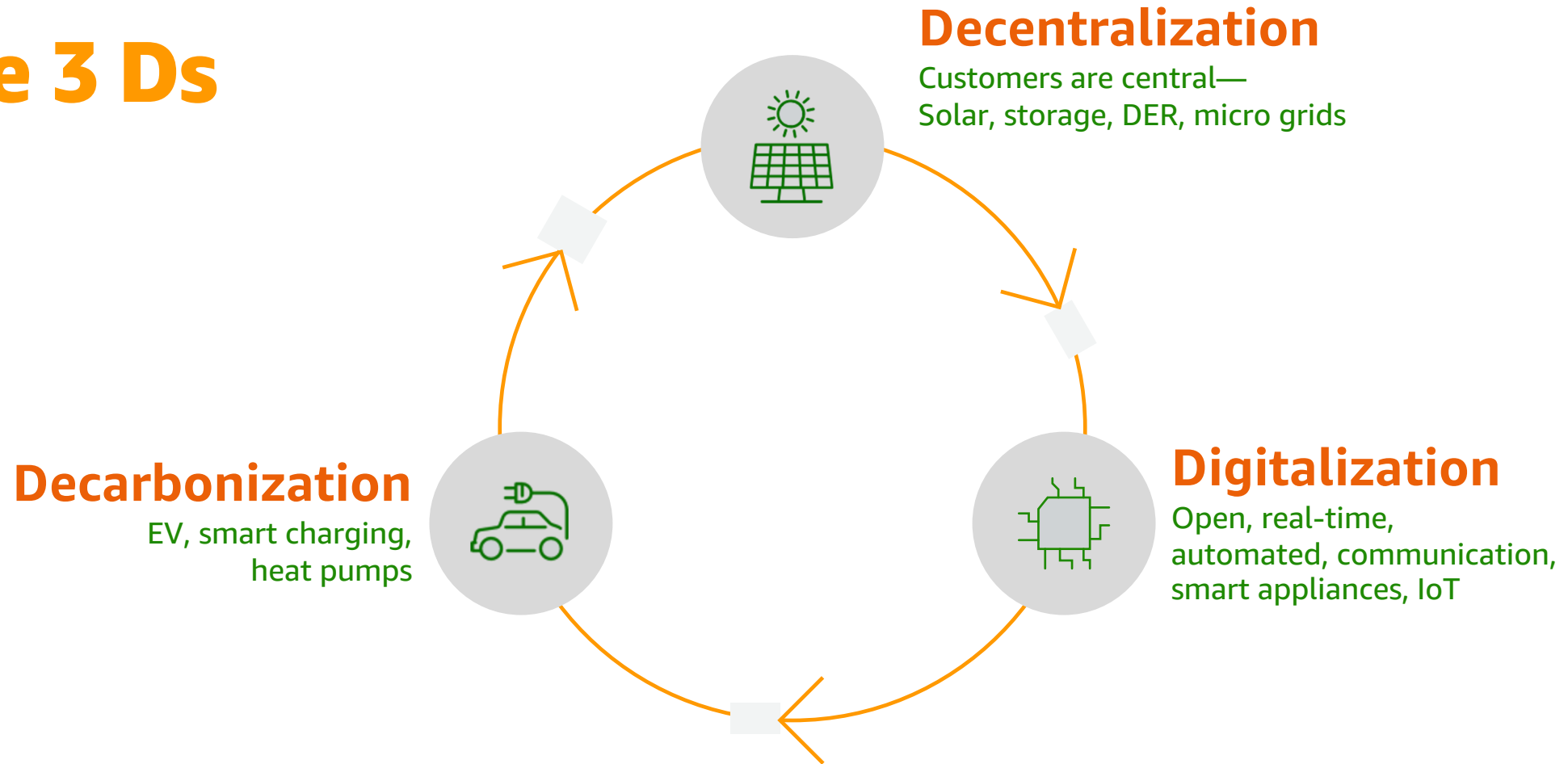Ajay Kaul

Head States & Local Government

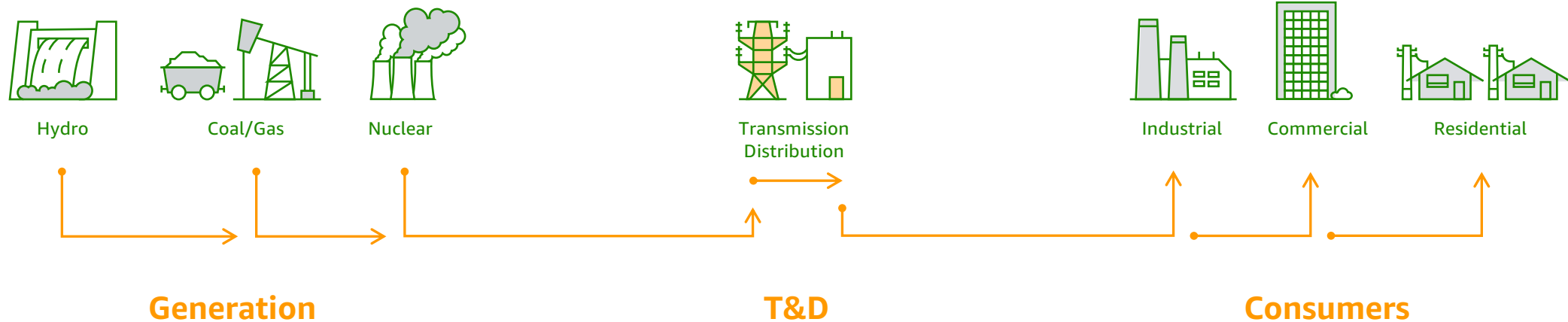**Worldwide Public Sector– India**

Global Perspective – Disruptive Trends
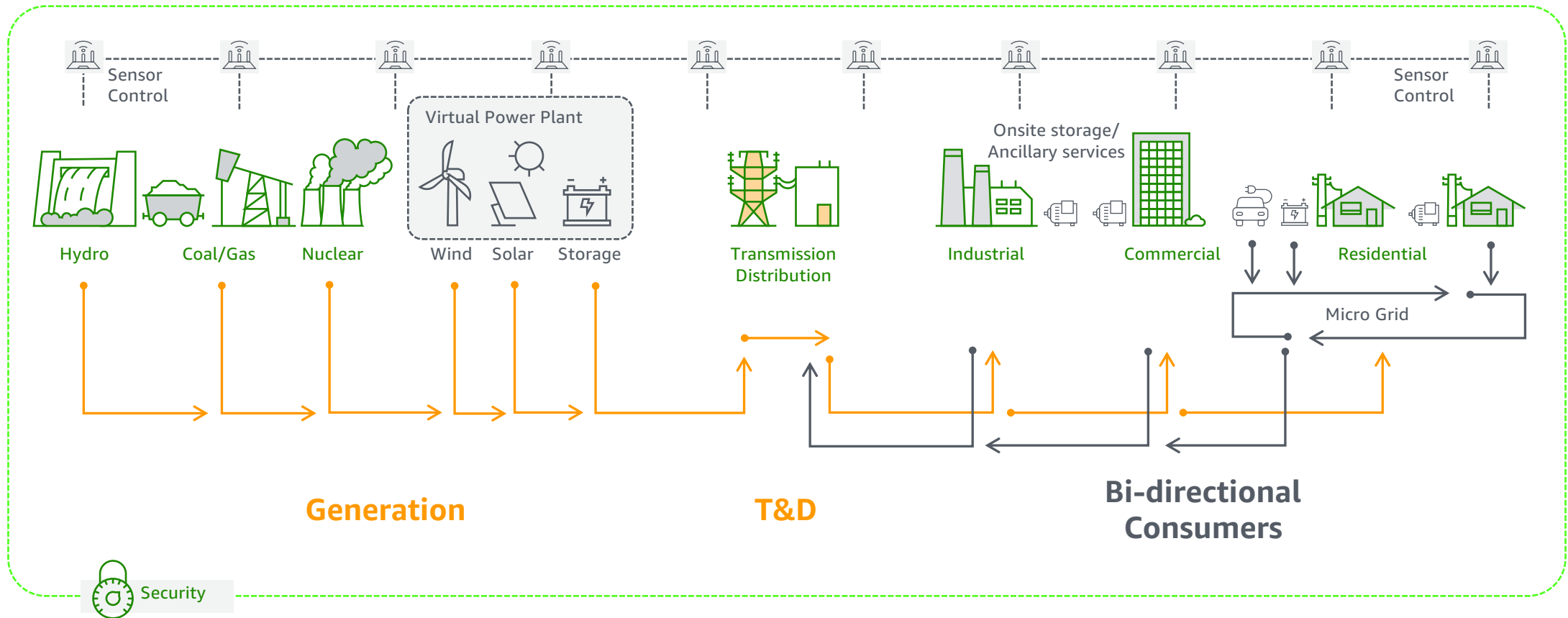
The 3 Ds

Decentralization
Customers are central—
Solar, storage, DER, micro grids

Digitalization
Open, real-time,
automated, communication,
smart appliances, IoT

Decarbonization
EV, smart charging,
heat pumps

Utilities value stream

Current Power Utility

| Hydro | Coal/Gas | Nuclear | | Transmission Distribution | | Industrial | Commercial | Residential |

Generation **T&D** **Consumers**
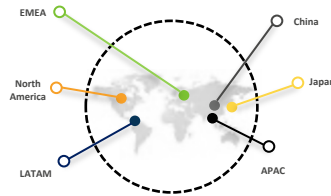
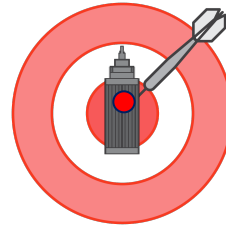# Utilities value stream

Future Power Utility

Industry risk and regulatory challenges

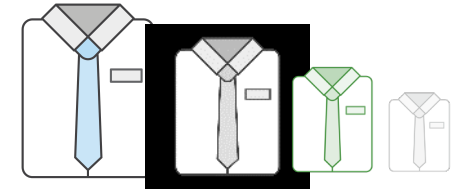**Constantly evolving regulatory needs**

Requirements that vary significantly across regions

Highly dynamic security threat landscape

Onerous reporting and documentation

Limited specialist security and compliance resources

These are the case with and without cloud.

Emphasis in the utilities today

Customer engagement and insights

Reduce customer churn, improve customer satisfaction, and create new revenue streams

IT transformation

Improve agility, reduce costs, and enable innovation across the IT function
and the rest of the business

OT transformation

Achieve the highest level of operational excellence in the face of increasing IoT data
and intermittent renewable generation

Work and asset value management

Create more value from your existing physical assets and workforce through analytics
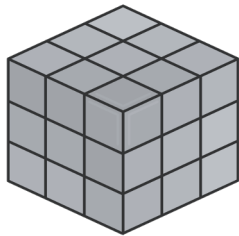and machine learning

Cloud is enabling transformation and innovation

Many power & utilities customers business models are in transition, they are increasingly focused on leveraging the cloud to **transform existing businesses** and bring **innovative new solutions** to market.
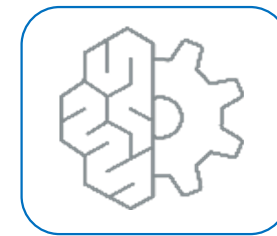
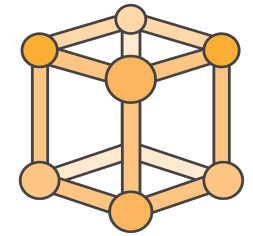| Digital channels	Grid/high-performance computing	Agile data analytics	Core systems transformation	AI/Machine Learning	Blockchain and DLT

AWS Preparing Customers for Next Wave

Source: https://blog.nema.org/2019/01/04/transactive-energy-an-overview-for-manufacturers/
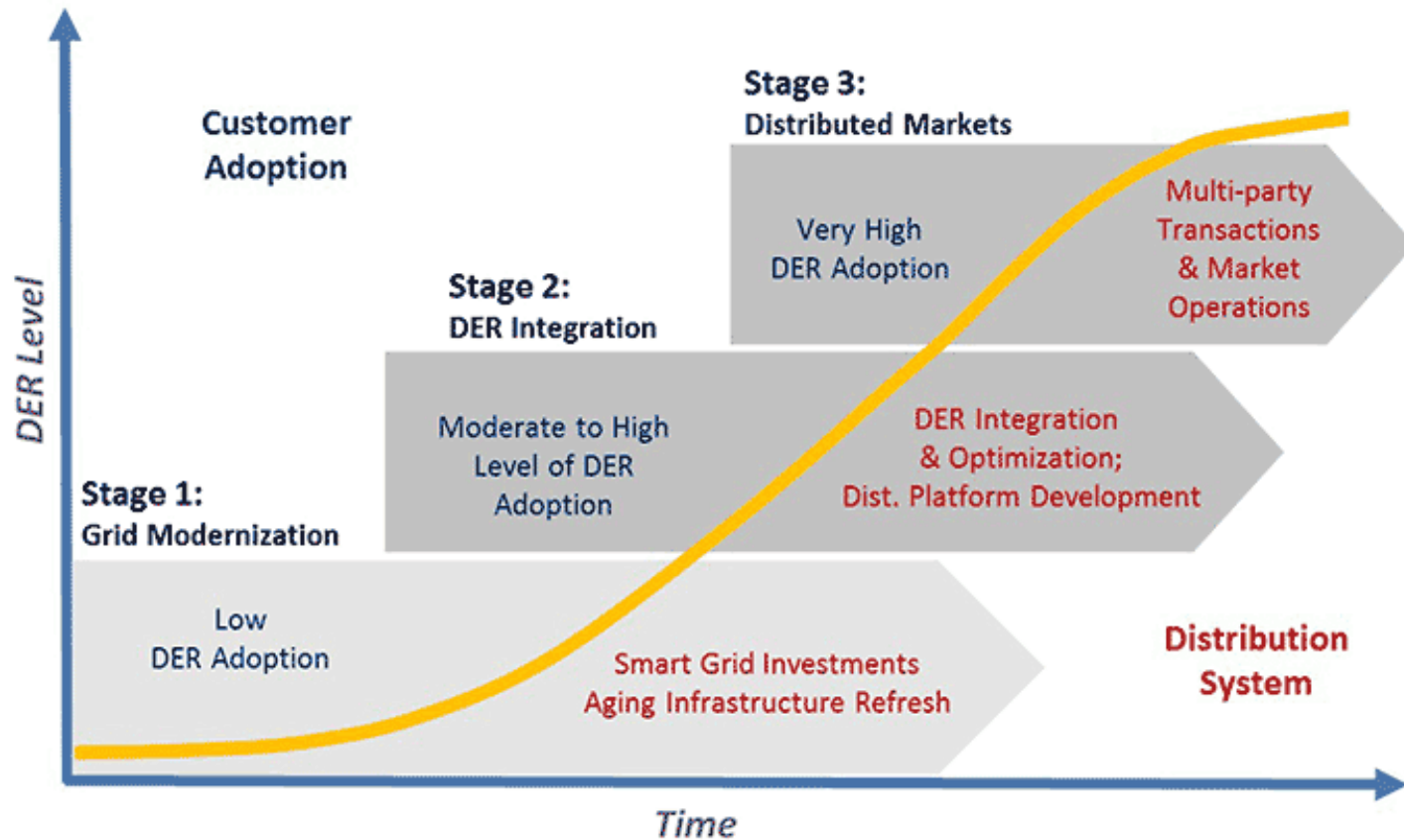
10 years from now we can expect:

- Electricity will be needed at about the level we have today +/- 20%

- Electricity reliability will be even more important than it is today

- Customers will want choice and ability to set their own priorities for both energy consumption and production.

- Renewable generation is here to stay and will grow dramatically to meet zero carbon grid targets.

AWS is Powering the Digital Utility

Industry Solution Categories	AWS Enabled Customer & Partner Solutions	BUSINESS TRANSFORMATION				
		IT TRANSFORMATION	OT TRANSFORMATION	WORK & ASSET MANAGEMENT	MARKET TRANSFORMATION	CUSTOMER ENGAGEMENT
		DATA INSIGHTS				
AWS Cloud Services	Core Services	DATABASE	EDGE	ANALYSIS	AI/ML	VOICE & CHAT ALEXA, Lex, Connect
	Foundation Technology	STORAGE	ELASTIC COMPUTE		NETWORK	SECURITY
	Data Capture, Ingest & Integration	STREAMING, QUEUING & MESSAGING	IoT EDGE, CORE & ANALYTICS	DATA CATALOGING & ETL		EDGE COMPUTE AND STORAGE

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Enabling Security via Cloud Services

Identity & access management	Detection	Infrastructure protection	Data protection	Incident response
AWS Identity & Access Management (IAM)	AWS Security Hub	AWS Firewall Manager	Amazon Macie	Amazon Detective
AWS Single Sign-On	Amazon GuardDuty	AWS Shield	AWS Key Management Service (KMS)	CloudEndure DR
AWS Organizations	Amazon Inspector	AWS WAF – Web application firewall	AWS CloudHSM	AWS Config Rules
AWS Directory Service	Amazon CloudWatch	Amazon Virtual Private Cloud (VPC)	AWS Certificate Manager	AWS Lambda
Amazon Cognito	AWS Config	AWS PrivateLink	AWS Secrets Manager	
AWS Resource Access Manager	AWS CloudTrail	AWS Systems Manager	AWS VPN	
	VPC Flow Logs		Server-Side Encryption	

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"It is not just about technology"

Outcomes
Industry-specific Solutions and Use Cases

1. IT Transformation
2. OT Transformation
3. Workforce & Asset Management
4. Market Transformation
5. Customer Engagement

+

AWS Cloud Services
Deepest and broadest portfolio

- Compute & Networking
- Database
- Storage
- ML, Analytics and IoT
- Security, Identity, Management and Governance
- Specialized Services

+

Partnerships & Programs
Accelerating Cloud Adoption

- ISVs, SIs and Startups
- Policy (CAPEX/OPEX)
- Security and Compliance (NERC-CIP)
- Enterprise Strategy
- Cloud Economics
- Growth Programs:
  - Migration & Modernization
  - Innovation Mechanisms
  - Experience Based Acceleration
  - Enterprise Next

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thank you