
Chartered
Insurance
Institute
Standards. Professionalism. Trust.
Insurtech,
Cloud and
IT Security

Agenda

- ABCD - the 4 technologies leveraging insuretech
- Challenges and Opportunities
- Cloud in insurtech, blockchain, data analytics and IT security
- Cybersecurity practices in the industry
- Cloud migration

Workshop format

Ask questions as we go! Type the question in the Q&A box. At the end of the chapter we will dedicate some time to reply the questions

We will try to leave some time for Q&A at the end

Hello!

I am Henrique Centieiro
I am here because I love technology, innovation and blockchain
You can find me at
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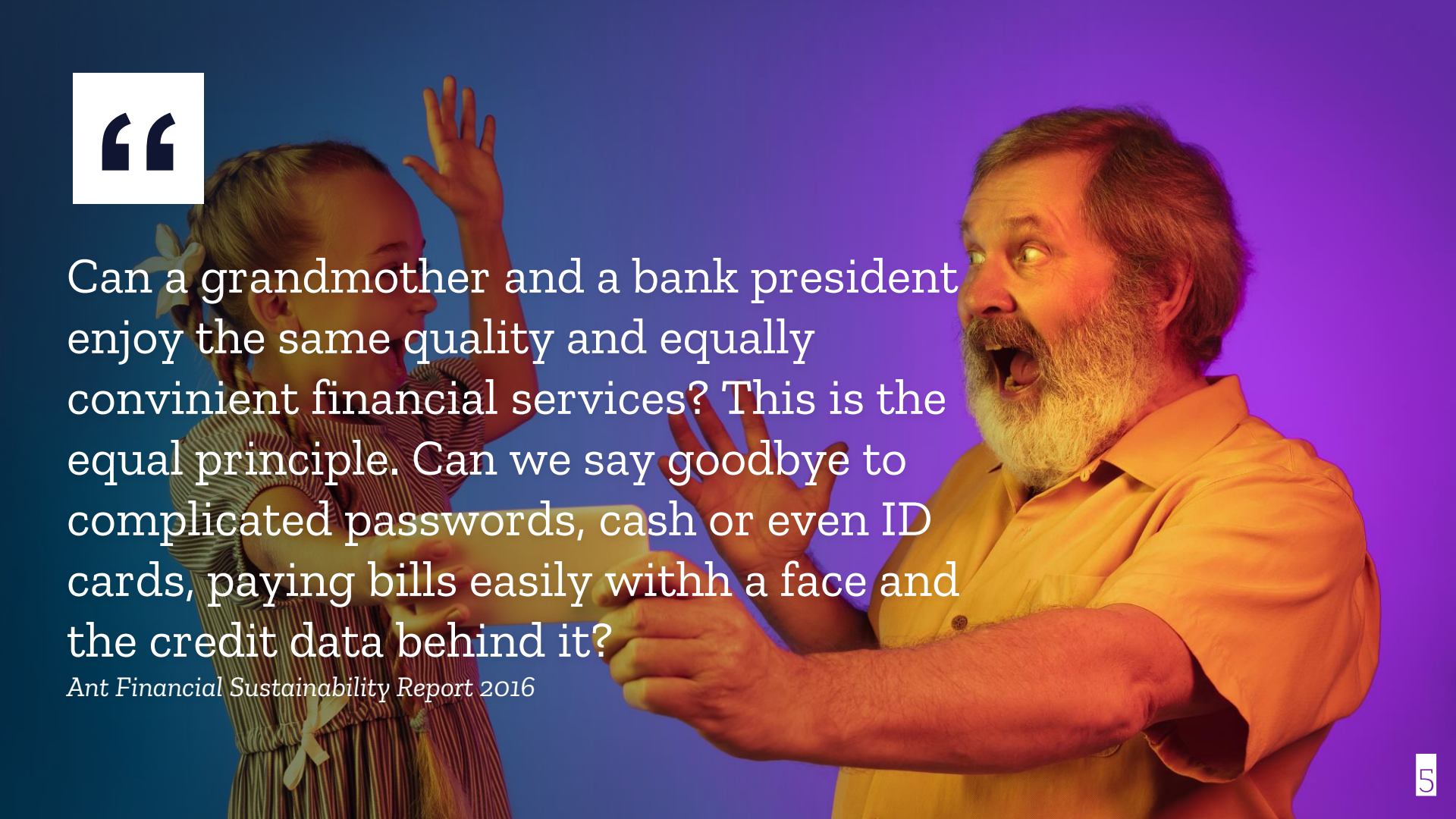


Can a grandmother and a bank president enjoy the same quality and equally convinient financial services? This is the equal principle. Can we say goodbye to complicated passwords, cash or even ID cards, paying bills easily withh a face and the credit data behind it?

Ant Financial Sustainability Report 2016

But... what is insurtech?

- Insurtech is used to describe new tech that seeks to improve and automate the delivery and use of insurance services
- Insurtech is the combination of innovation and new technologies used to architect new financial products or re-architect existing insurance products

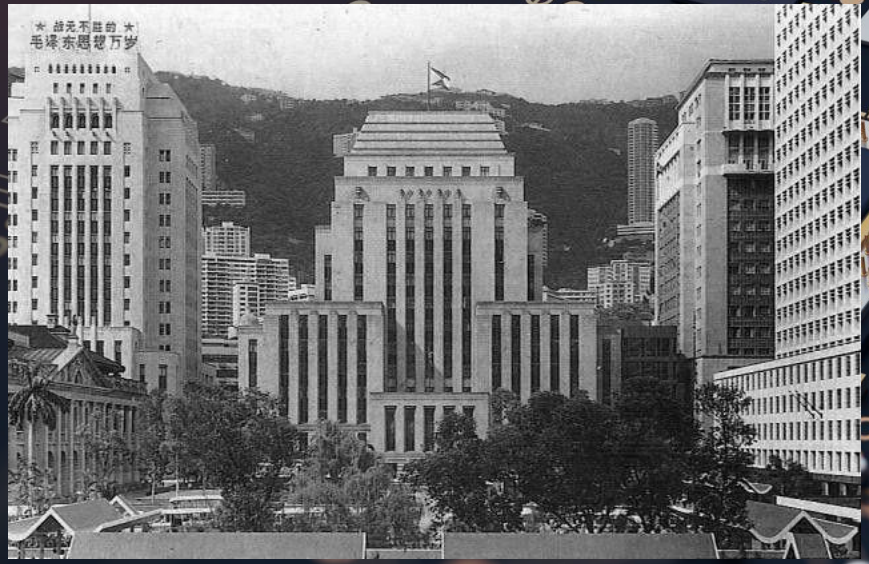
10 Most valuable companies by market cap in 2000

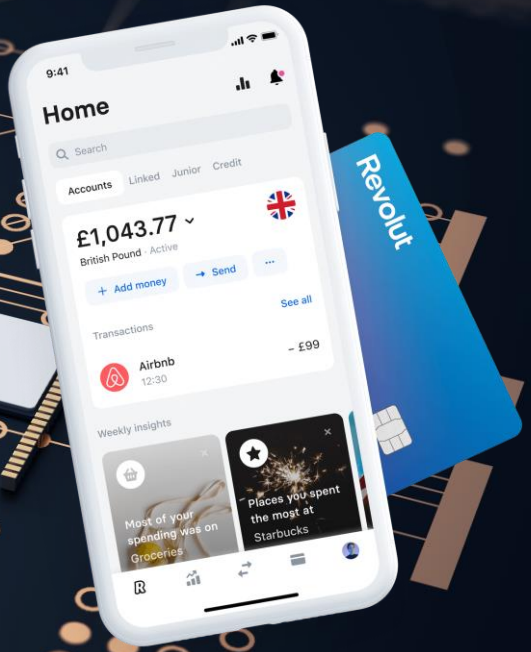
General Electric		Conglomerate
Cisco Systems		Networking hardware
Exxon Mobil		Oil and gas
Pfizer		Health care
Microsoft		Tech
Wal-Mart		Retail
Citigroup		Banking
Vodafone		Telecommunications
Intel		Computer hardware
Royal Dutch Shell		Oil and gas

10 Most valuable companies by market cap in 2020

Microsoft	Tech
Apple	Tech
Amazon	Tech
Alphabet	Tech
Alibaba	Tech
Facebook	Tech
Tencent	Tech
Berkshire Hathaway	Conglomerate
Visa	Financial Services
Johnson & Johnson	Consumer Products

Innovation speed matters





From 10 Million customers in 50 years

To 10 Million customers in 5 years

The technologies enabling Insurtech

AI, also referred to as Machine Learning AI is a "a system's ability to correctly interpret external data, to learn from such data, and to use those learnings to achieve specific goals and tasks through flexible adaptation."

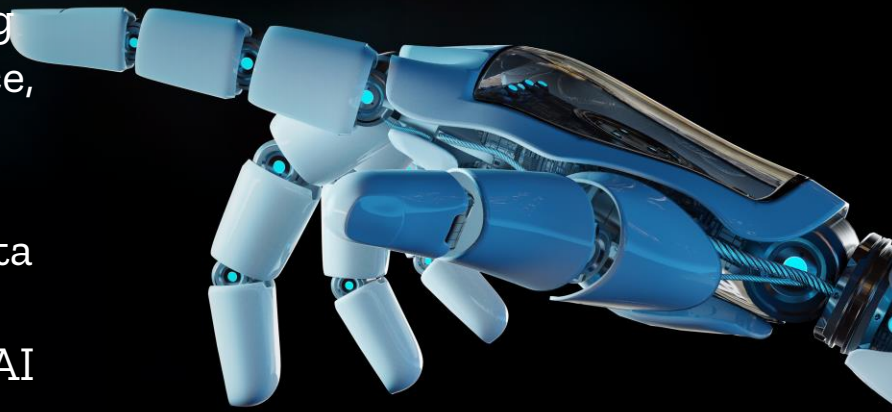
Cloud providers allow on-demand availability of computer system resources, especially data storage (cloud storage) and computing power, without direct active management by the user. Most common providers are AWS, Google Cloud, MS Azure, IBM, Rackspace.

Blockchain is a distributed, peer-to-peer, decentralize and immutable ledger (or database). Blockchains can be public or private, permissioned or permissionless.

Data analytics is a process of inspecting, cleansing, transforming and modeling data with the goal of discovering useful information, informing conclusions and supporting decision-making.

Artificial Intelligence

- AI is a technology which enables computer systems to accomplish tasks that typically require intelligent behavior
- In the insurance industry, AI is transforming areas such as underwriting, customer service, claims, marketing and fraud detection.
- Whether it is structured or unstructured data (e.g., social media, wearables, telematics, sensors, news, weather and traffic reports), AI is helping insurers make sense of big data.



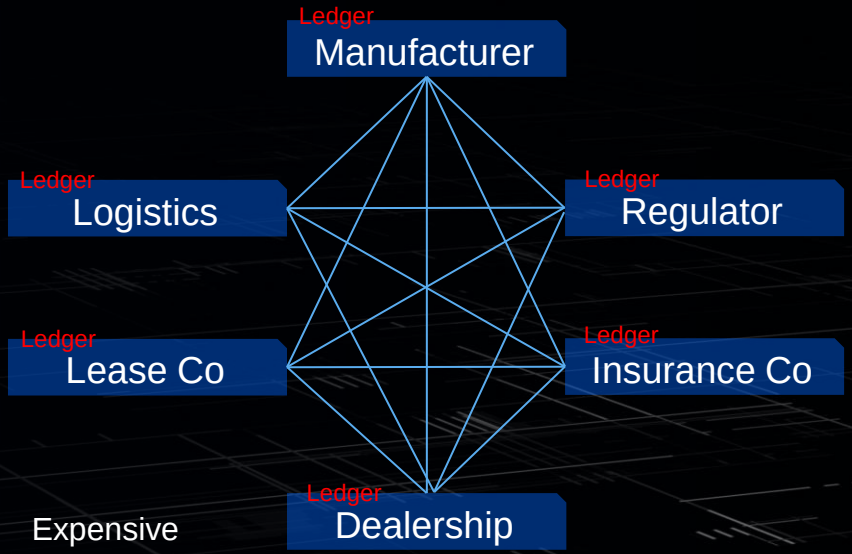
Artificial Intelligence

Blockchain

Blockchain is adding more visibility, transparency and traceability to the insurance market and at the same time removing the trust issue.

- Shared
- Synchronized and transparent
- Secure and immutable
- Consensus-based

Blockchain



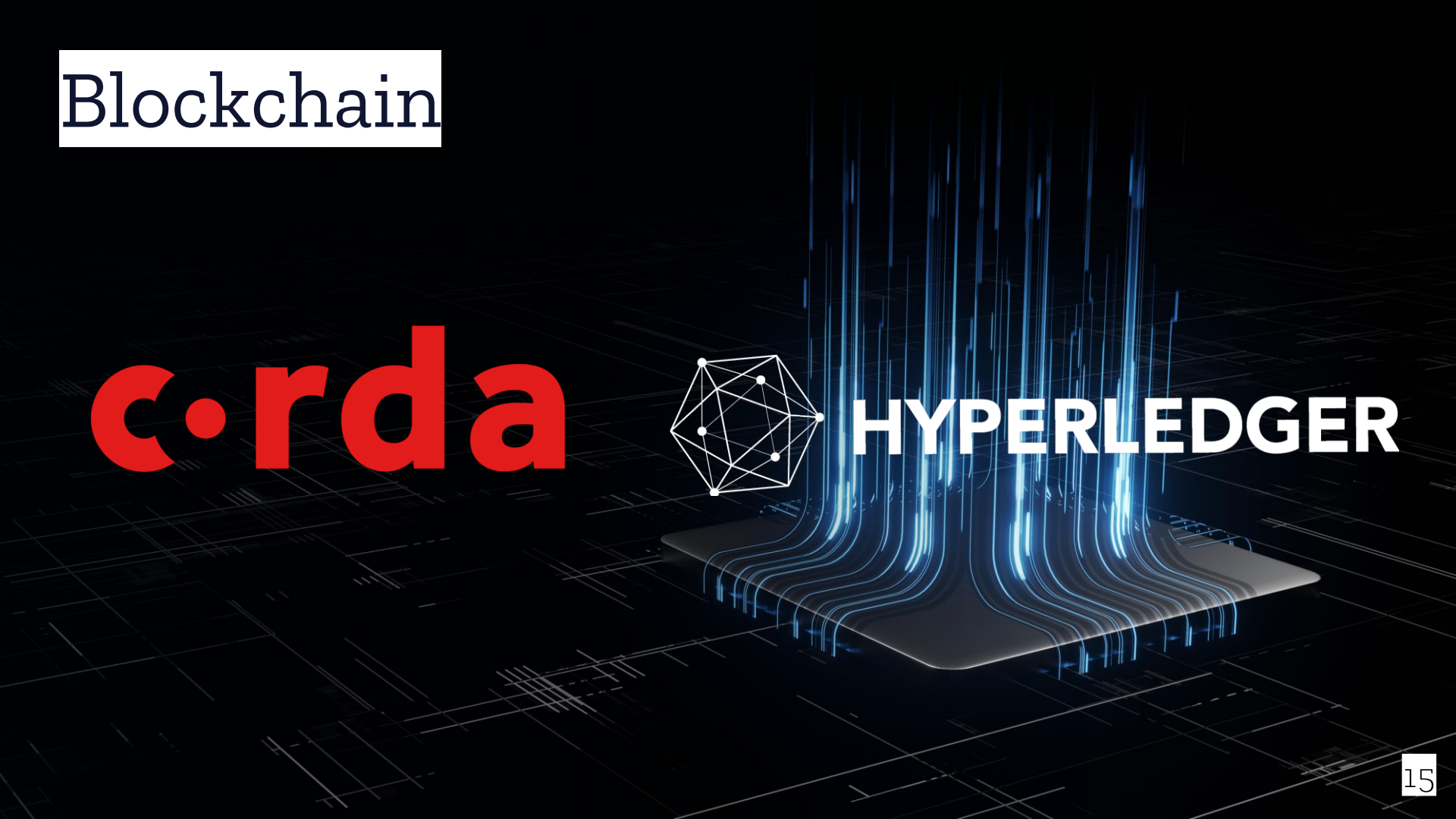
- Expensive
- Slow
- Vulnerable to fraud, mistakes and cyber attacks
- Inefficient
- Need many API integrations
- Systems speak different languages

- Consensus
- Provenance
- Immutability

- Shared
- Replicated
- Permissioned

- High Security
- Faster Dealing
- Cost saving
- Auditable and verifiable

Blockchain



Cloud

- Main providers in the market are AWS – Amazon Web Services, Microsoft Azure, Google Cloud, IBM, AlibabaCloud, Rackspace and others.

- Main characteristics:
  - On-demand self-service with no upfront costs
  - Pay only the resources used
  - Broad network access
  - Elasticity and Scalability
  - Detailed Metrics
  - Many plug-and-play services available

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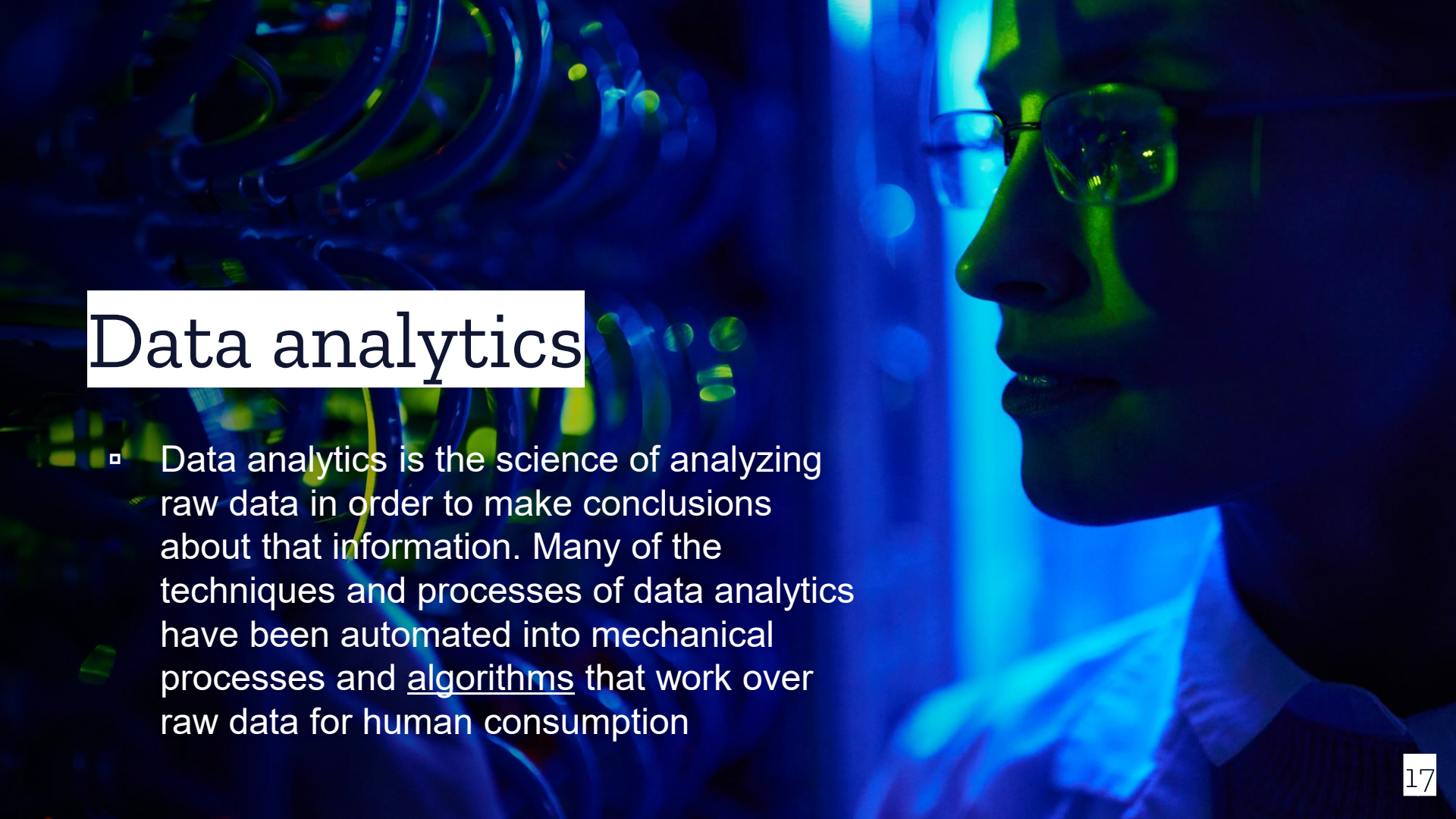
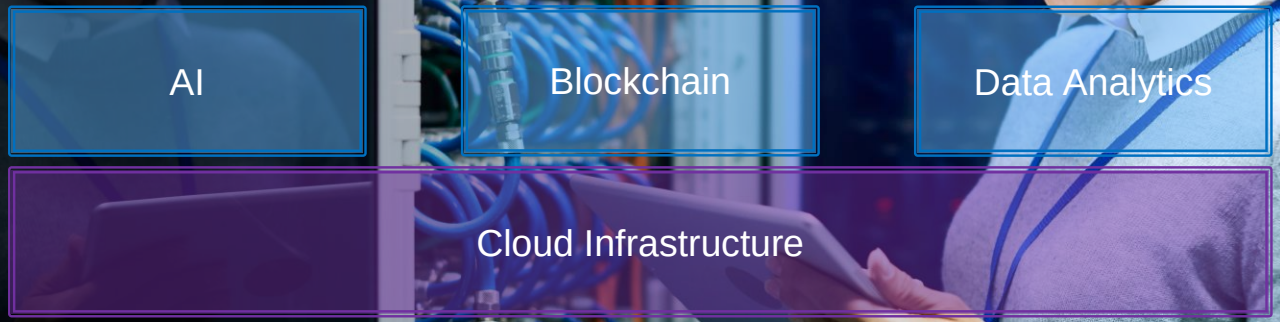


Data analytics

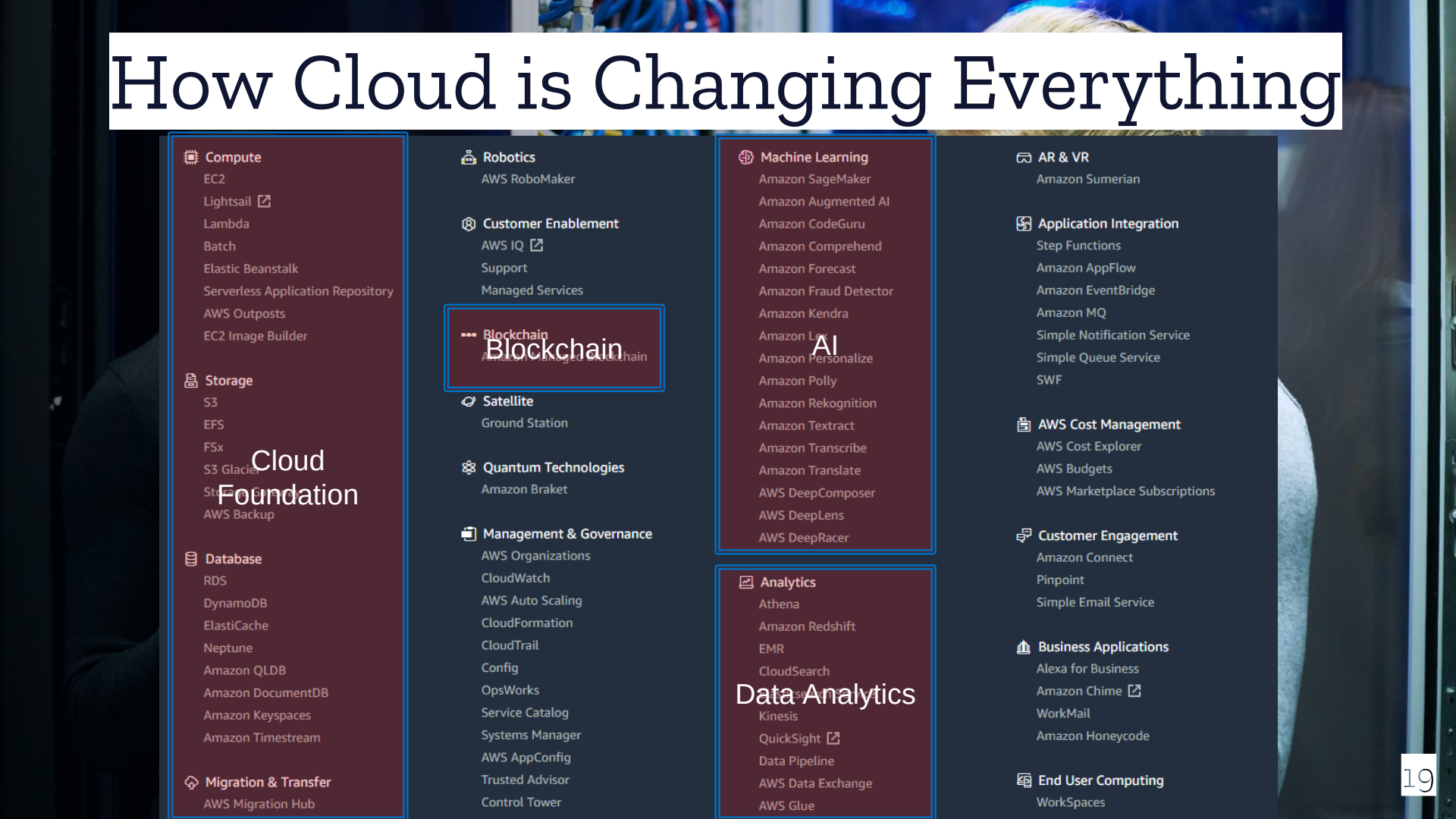
- Data analytics is the science of analyzing raw data in order to make conclusions about that information. Many of the techniques and processes of data analytics have been automated into mechanical processes and algorithms that work over raw data for human consumption

How Cloud is Changing Everything



- The major cloud providers offer a strategic edge allowing access to the latest technologies without spending time and money with installations
- Quick deployment: cloud allows rapid experimentation, easy POCs and entire systems can be functional in minutes

How Cloud is Changing Everything



Being more agile with cloud

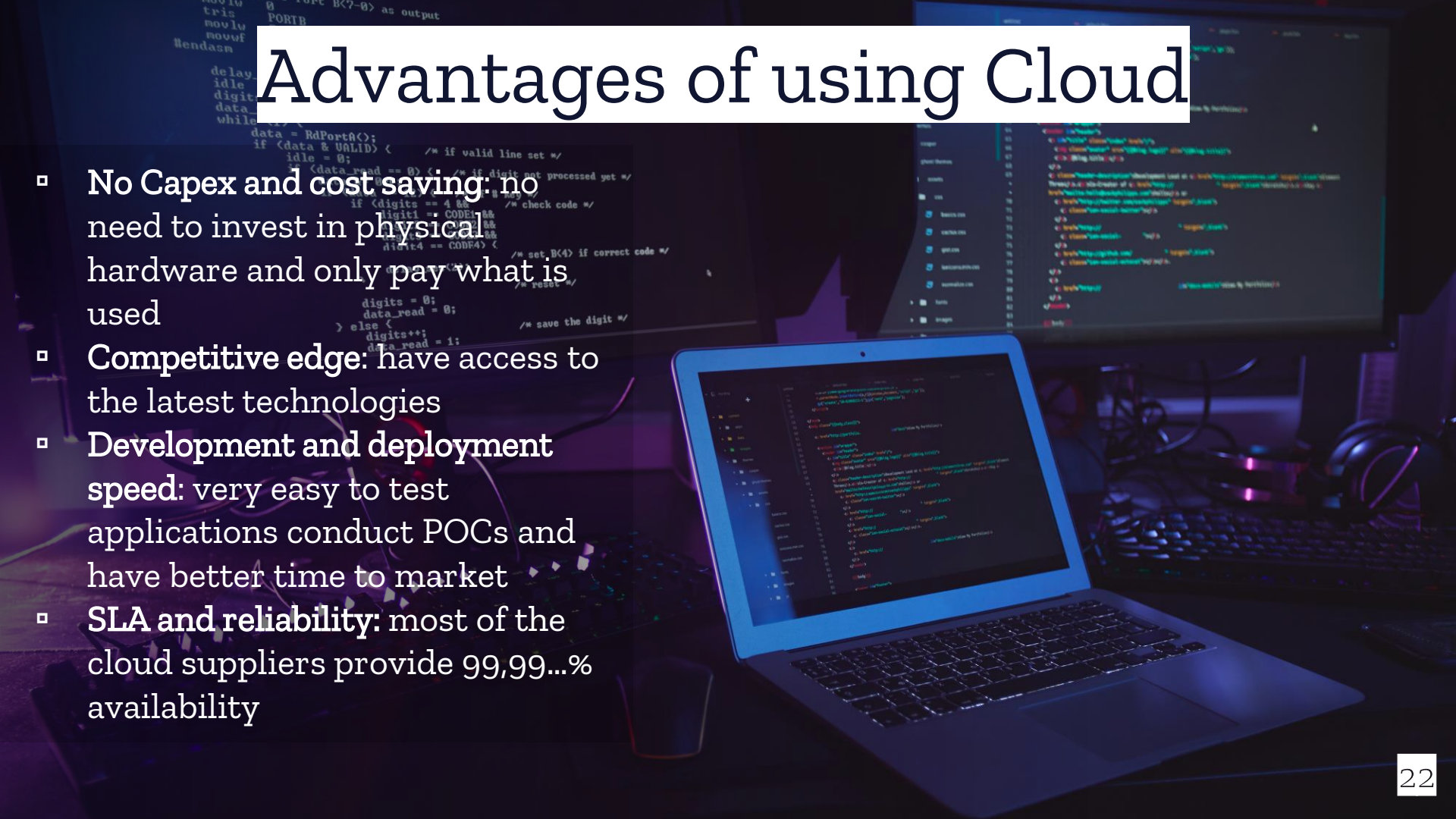
How Cloud is Changing Everything

On-premise	IaaS	PaaS	FaaS	SaaS
Functions	Functions	Functions	Functions	Functions
Application	Application	Application	Application	Application
Database	Database	Database	Database	Database
Runtime	Runtime	Runtime	Runtime	Runtime
Op. System	Op. System	Op. System	Op. System	Op. System
Virtualization	Virtualization	Virtualization	Virtualization	Virtualization
Networking	Networking	Networking	Networking	Networking
Storage	Storage	Storage	Storage	Storage
Hardware	Hardware	Hardware	Hardware	Hardware

Cloud Evolution → High Abstraction

Advantages of using Cloud

- **No Capex and cost saving**: no need to invest in physical hardware and only pay what is used
- **Competitive edge**: have access to the latest technologies
- **Development and deployment speed**: very easy to test applications conduct POCs and have better time to market
- **SLA and reliability**: most of the cloud suppliers provide 99,99...% availability



Advantages of using Cloud

- **Mobility**: have access to anywhere in the world with low latency
- **Unlimited capacity:** storage and computing capacity are (almost) unlimited
- **Collaboration**: employees in different geographies can easily collaborate in the same projects
- **Security:** the cloud provider is responsible for the infrastructure, operating system, database and other components security

And also Scalability!!!

Cloud security from the gecko

- All the cloud components that are managed by the cloud provider have the best IT security patterns in the industry. Customer is responsible for keeping the data and the applications secure

Cloud security from the gecko

Security - RapidScale claims that 94% of businesses saw an improvement in security after switching to the cloud, and 91% said the cloud makes it easier to meet government compliance requirements.

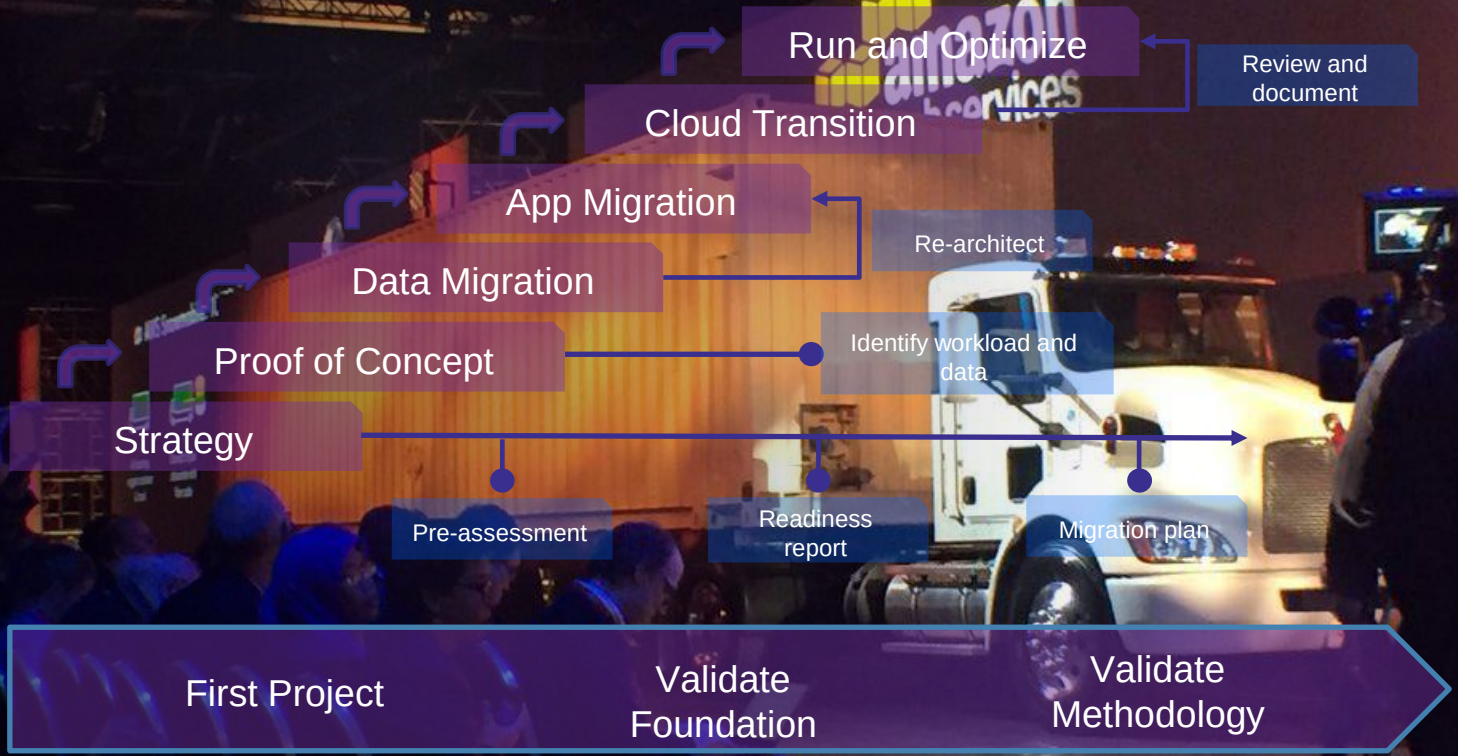
Monitoring and Alerting – DevOps and IT Managers have access to tools and actionable insights to monitor your applications, respond to system-wide performance changes, optimize resource utilization, and get a unified view of operational health.

Disaster Recovery – data backups and disaster recovery capabilities alongside with redundancy across different cloud datacenters provide a very reliable protection against any data loss, server corruptions and cyber attacks.
Data durability in the cloud can be higher that 9,999999999% (nine 9's)

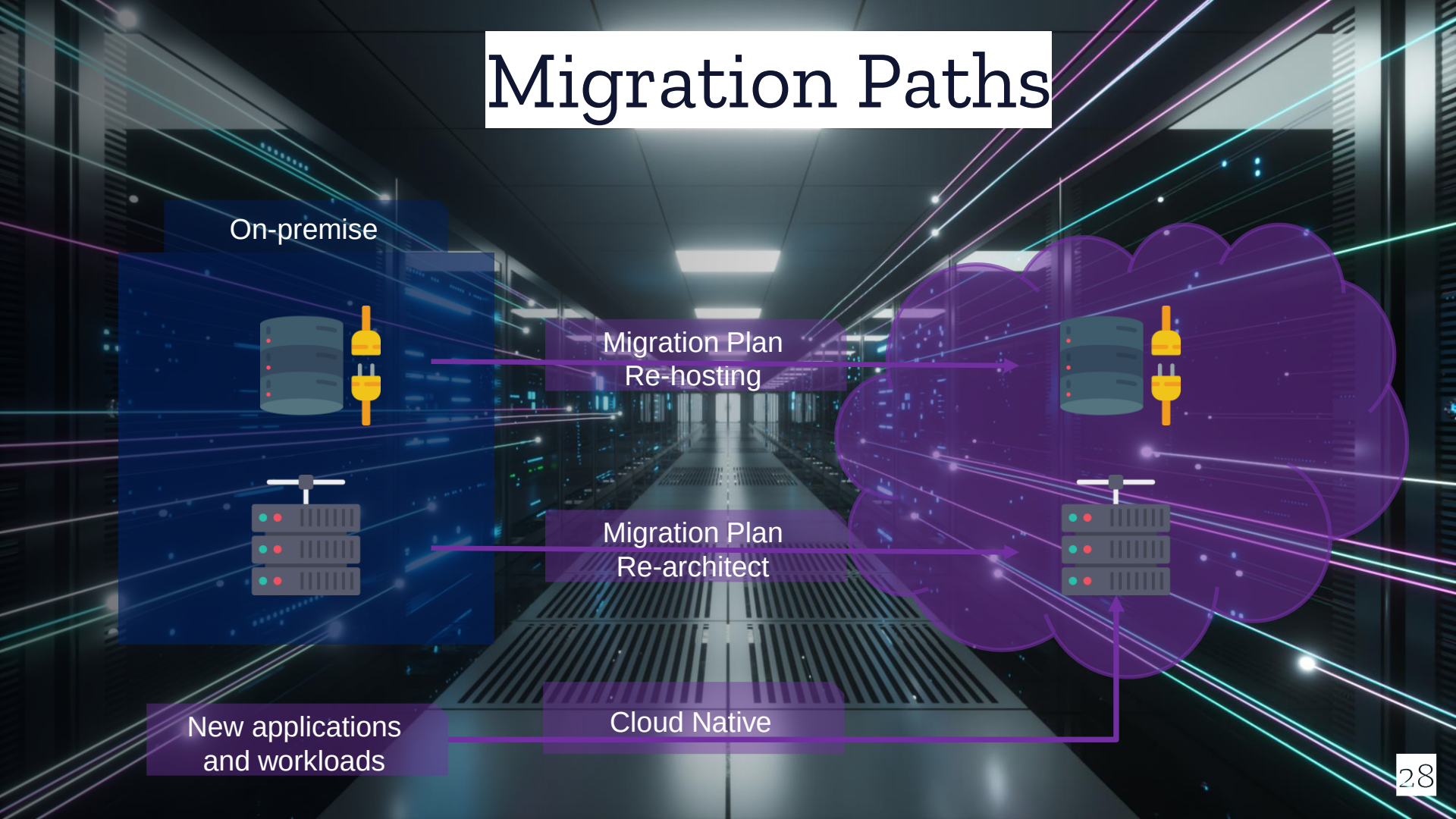
Security best practices

- Shared cloud responsibilities
- Data in transit encryption
- Data at rest encryption
- Cloud data deletion policies
- Identity & Access Management
- Monitoring and logging
- Penetration testing
- Disaster Recovery Plans
- Training

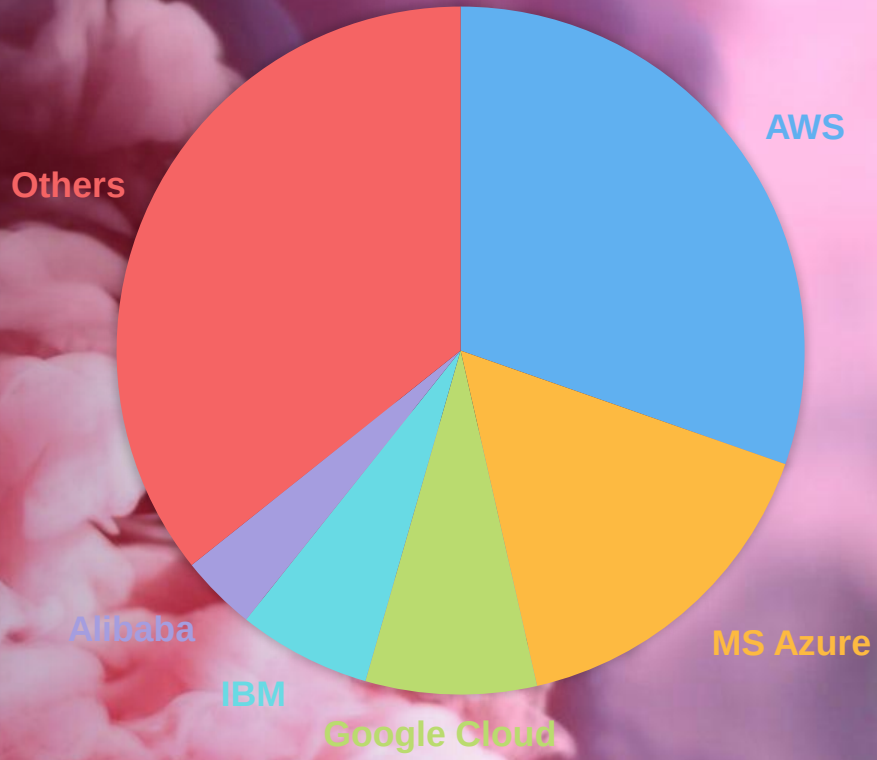
Migrating to the Cloud



Migration Paths



Cloud market



Thanks!

Any questions?

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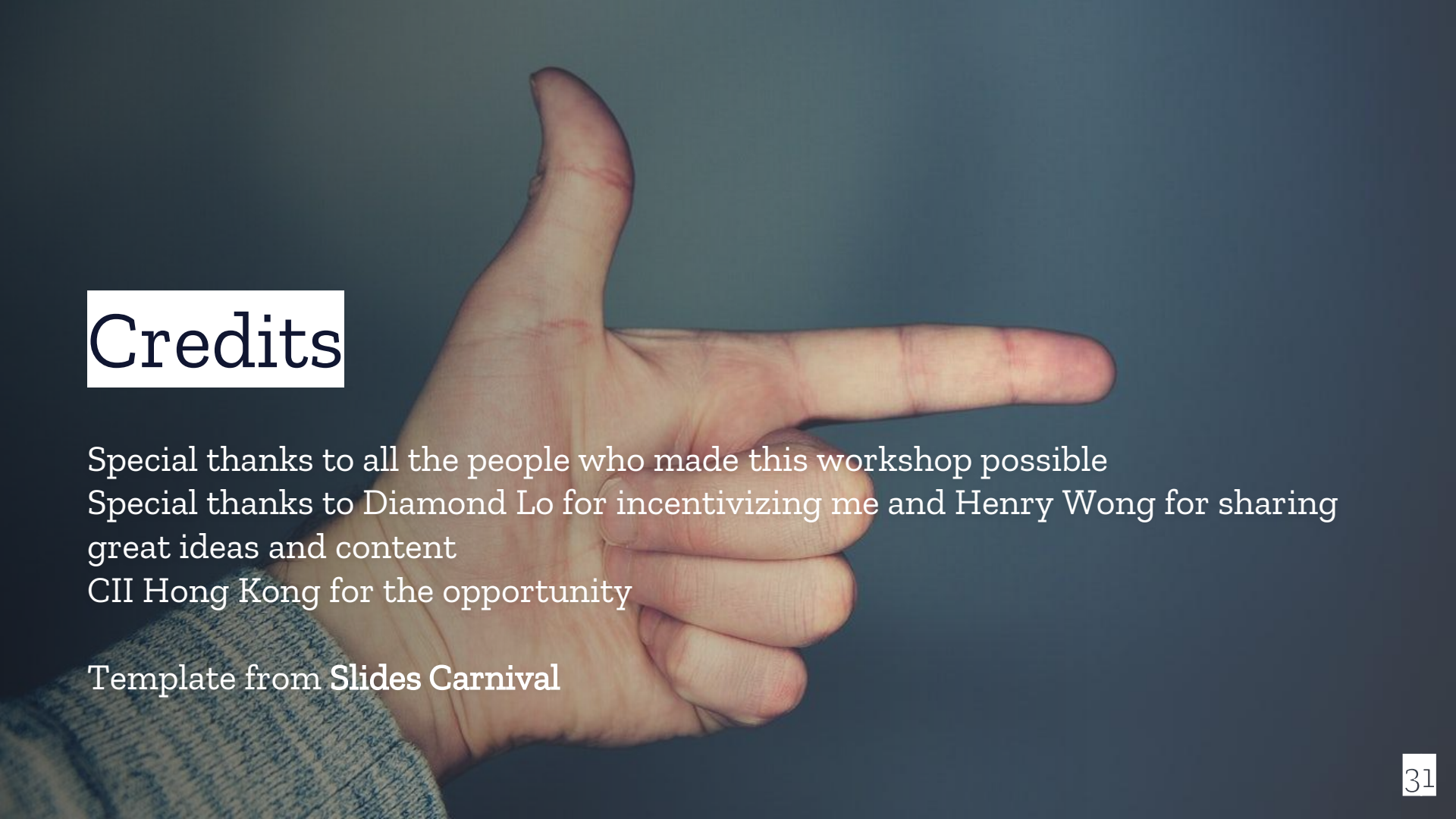

Credits

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CII Hong Kong for the opportunity

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