RSA®Conference2019

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BETTER.

SESSION ID: **TECH-W03**

Building High Performance and Innovative Security Programs That Embrace Cyber/Physical Convergence

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Expo Dubai 2020

Agenda

1

BACKGROUND

- Expo Dubai 2020
- Block.one

2

CHALLENGES AND THREATS

- Mega Events and Global Ecosystems
- Case Study : Winter Olympics
- Case Study: Building Global Scale on Blockchain

3

OPEN DIALOG: SOLUTIONS, RECOMMENDATIONS AND Q&A

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Expo Dubai 2020

WHAT IS A WORLD EXPO?

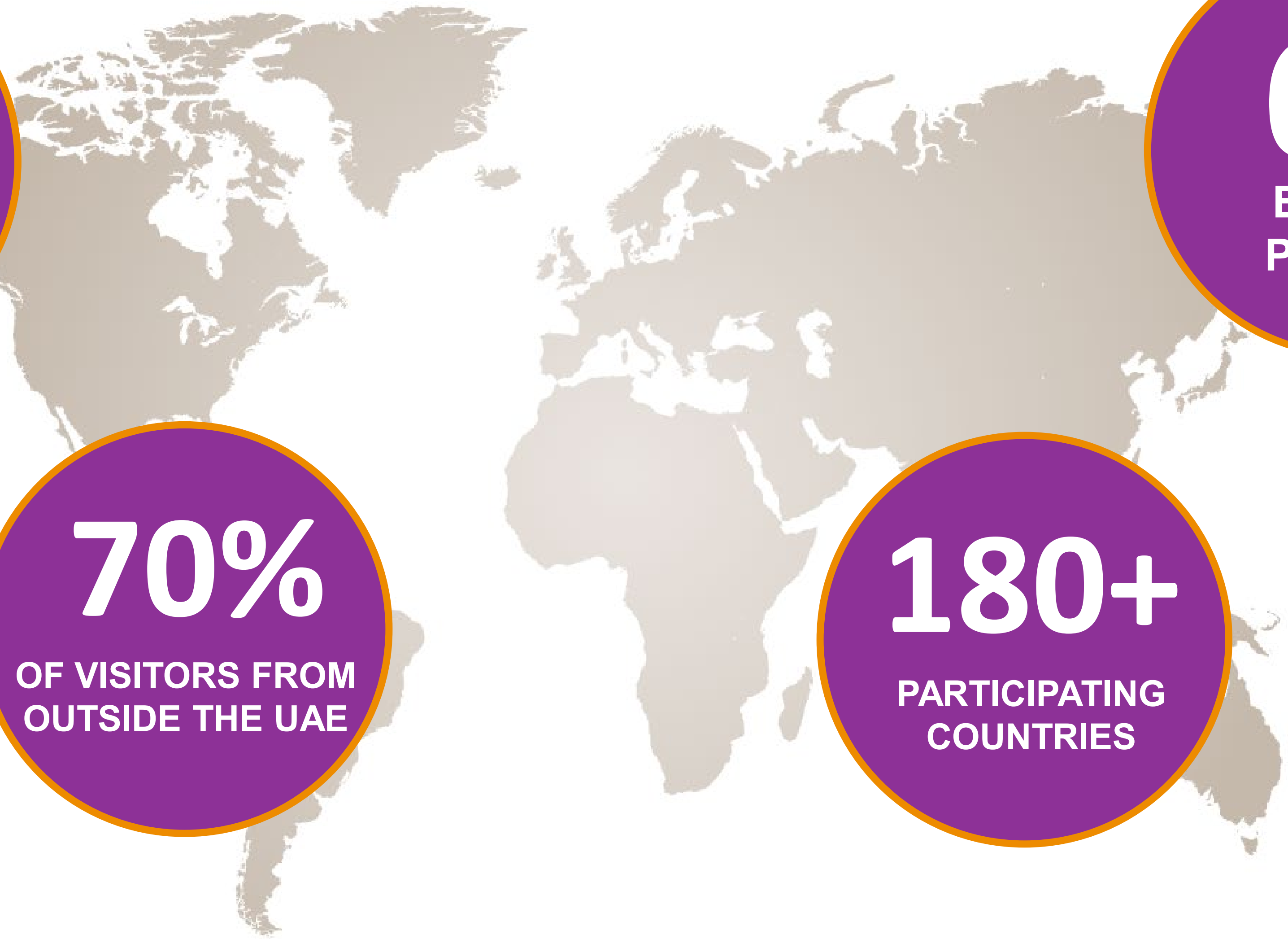
A festival of innovation and imagination

A meeting point for people, business and governments

A vehicle for nation building

A platform for economic and cultural change

A GLOBAL DESTINATION



25
MILLION
VISITS

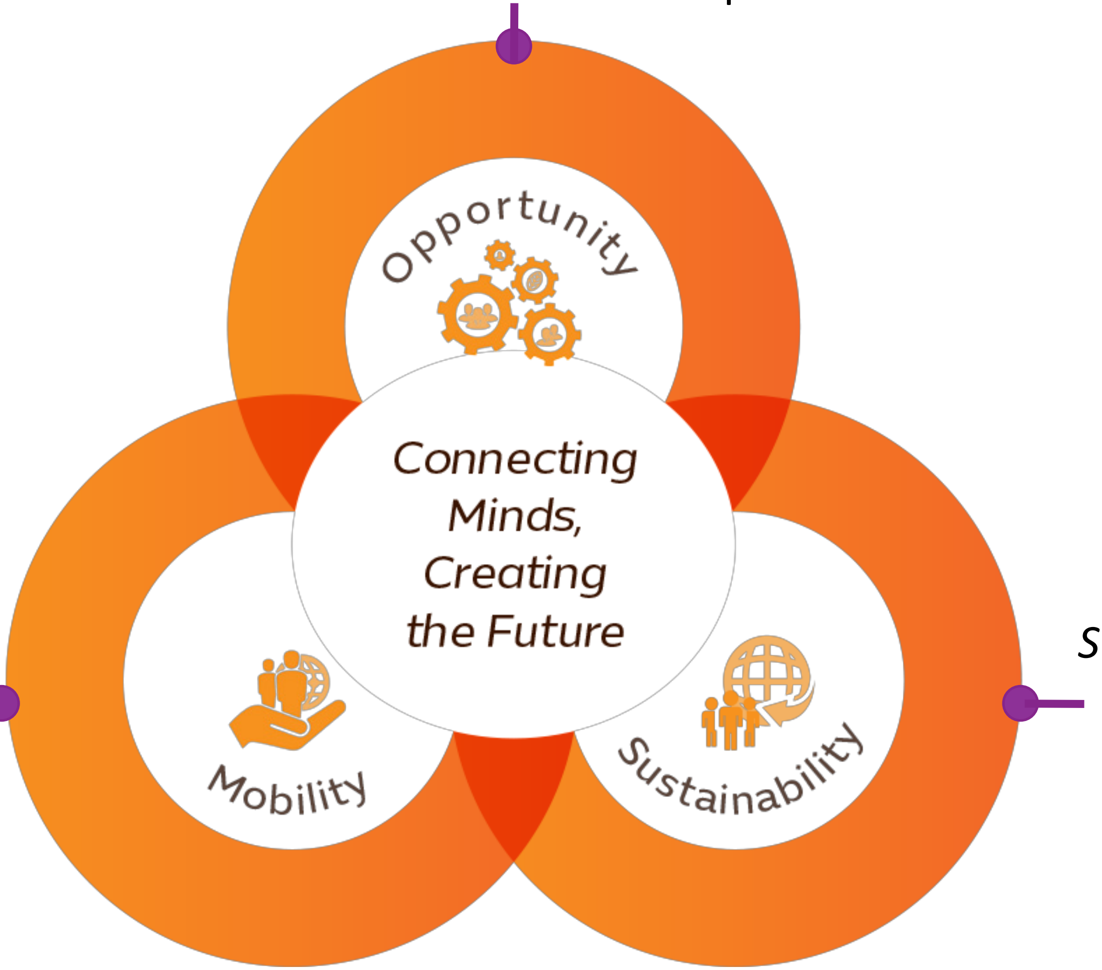
60
EVENTS
PER DAY

70%
OF VISITORS FROM
OUTSIDE THE UAE

180+
PARTICIPATING
COUNTRIES

THEME AND SUBTHEMES

Opportunity is about unlocking the potential for individuals and communities to shape the future



Mobility is about creating smarter and more productive movement of people, goods and ideas, both digitally and virtually

Sustainability is about respecting and living in balance with the world we inhabit to ensure a sustainable future for all

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Introduction to blockchain

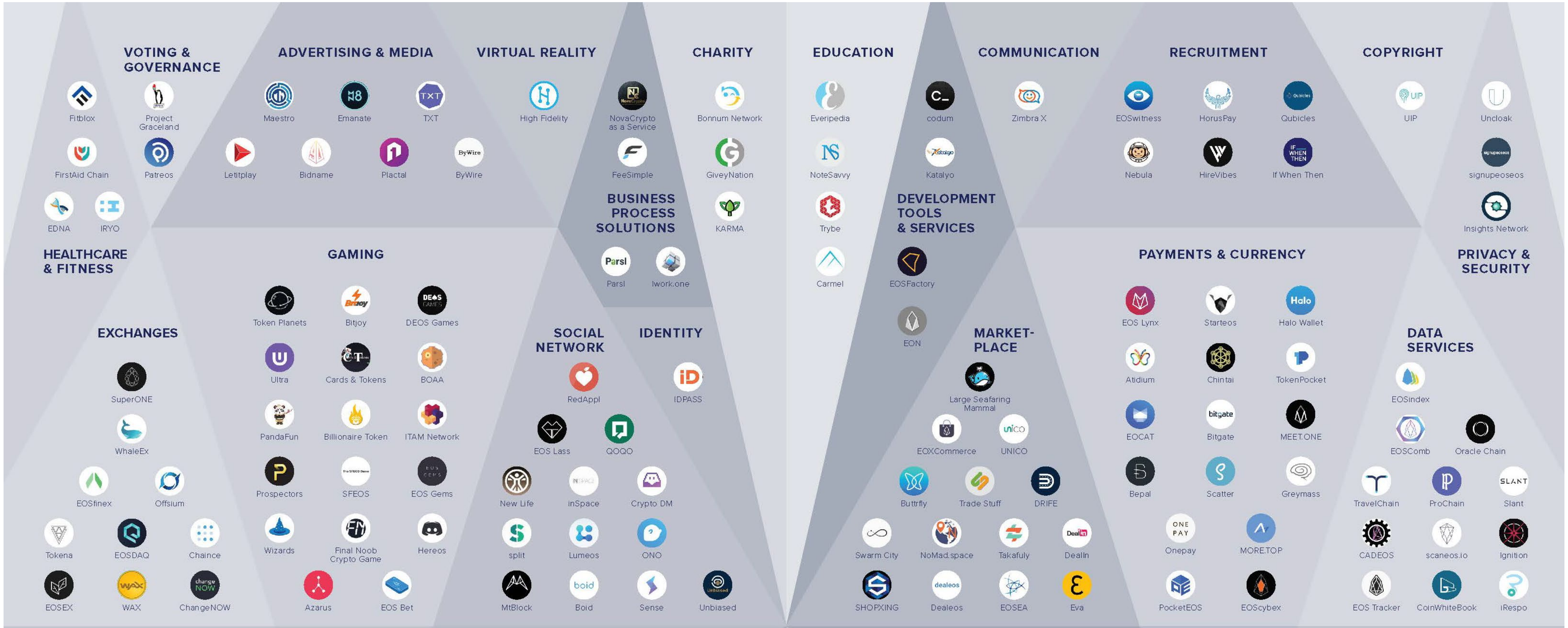
What is blockchain?

- A blockchain is a database that is distributed, secure, and auditable
  - Distributed means there is no single point of failure in the network
  - Cryptographically secure
  - Auditable because data is censorship resistant
- Public blockchains permit anyone to access, participate in running, and / or build on the blockchain
- Private blockchains limit access and participation only to those with permission

Why is this information important?

- Blockchain has applications for many industries e.g., insurance, banking, supply chain, retail, medical services, gaming, charities, entertainment, utilities and the Internet of Things
- Smart contracts allow blockchains to execute transactions and transfers automatically, without the need for a central authority
- Blockchain is the next step in the evolution of digital communications and business transactions
- Creates a new global digital infrastructure
- Increases transparency, increases transaction speeds; reduces costs, reduces risks for trade and communications
- Streamlines workflows – the software automates processes, replacing intermediaries

Scale – Imagine How Huge (and Critical) It Will Become!



VOTING & GOVERNANCE
Fitblox, Project Graceland, FirstAid Chain, Patreos, EDNA, IRYO

HEALTHCARE & FITNESS

ADVERTISING & MEDIA
Maestro, Emanate, TXT, Letitplay, Bidname, Plactal, ByWire

VIRTUAL REALITY
High Fidelity, NovaCrypto as a Service, FeeSimple

CHARITY
Bonnum Network, GiveyNation, KARMA

BUSINESS PROCESS SOLUTIONS
Parsl, Iwork.one

EDUCATION
Everipedia, NoteSavvy, Trybe, Carmel

COMMUNICATION
codum, Zimbra X, Katalyo

DEVELOPMENT TOOLS & SERVICES
EOSFactory, EON

RECRUITMENT
EOSwitness, HorusPay, Quicles, Nebula, HireVibes, If When Then

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PRIVACY & SECURITY

GAMING
Token Planets, Bitjoy, DEOS Games, Ultra, Cards & Tokens, BOAA, PandaFun, Billionaire Token, ITAM Network, Prospectors, SFEOS, EOS Gems, Wizards, Final Noob Crypto Game, Hereos, Azarus, EOS Bet

EXCHANGES
SuperONE, WhaleEx, EOSfinex, Offsium, Tokena, EOSDAQ, Chaince, EOSEX, WAX, ChangeNOW

SOCIAL NETWORK
RedAppl, EOS Lass, QOQO, New Life, inSpace, Crypto DM, split, Lumeos, ONO, MtBlock, Boid, Sense, Unbiased

IDENTITY
IDPASS

MARKET-PLACE
Large Seafaring Mammal, EOXCommerce, UNICO, Buttrfly, Trade Stuff, DRIFE, Swarm City, NoMad.space, Takafuly, DealIn, SHOPXING, Dealeos, EOSEA, Eva

PAYMENTS & CURRENCY
EOS Lynx, Starteos, Halo Wallet, Atidium, Chintai, TokenPocket, EOCAT, Bitgate, MEET.ONE, Bepal, Scatter, Greymass, Onepay, MORE.TOP, PocketEOS, EOScybex

DATA SERVICES
EOSindex, EOSComb, Oracle Chain, TravelChain, ProChain, Slant, CADEOS, scaneos.io, Ignition, EOS Tracker, CoinWhiteBook, iRespo

- Hundreds of developers and entrepreneurs around the globe are building Decentralized Applications (DAPPs) using open-source EOSIO block chain software
- Sectors that benefit from blockchain include everything from music streaming and gaming to legal, email/communications, coding, reference/research, fintech, medical services and more

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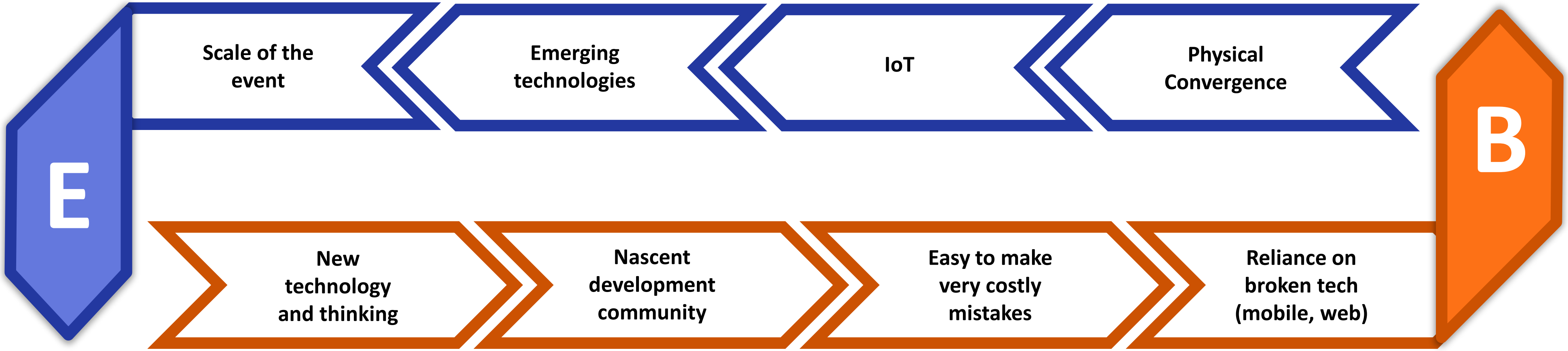
Challenges and Threats

Challenges We Both Face…For Example



E
Scale of the event
Emerging technologies
IoT
Physical Convergence
B
New technology and thinking
Nascent development community
Easy to make very costly mistakes
Reliance on broken tech (mobile, web)

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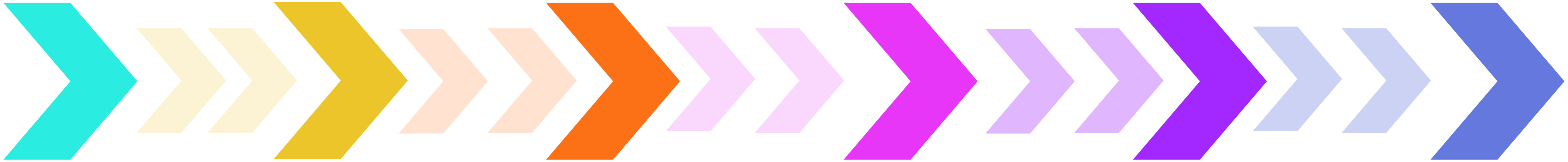
OLYMPIC GAMES: HISTORIC THREAT ACTORS



2008

BEIJING – Ticket Scamming | DDoS

First Olympics to report millions of instances of malicious cyber activity. The majority of this activity was low level and did not affect the games.

2010

CANADA – no publicised incidents

2012

LONDON – Ticket Scamming | DOS | DDoS

Suffered an internal DOS attack in addition to more generic DDoS attacks and ticket scamming activities.

2014

SOCHI – Ticket Scamming | Malicious Wi-Fi

Sochi was affected by malicious Wi-Fi, which is reported to have automatically downloaded as attendees connected to the Olympics’ networks.

2016

RIO – Ticket Scamming | DDoS | IOC/WADA Data Leak

Hacking and leaking of athletes’ medical records, as well as generic DDoS attacks and ticket scamming activities.

2018

PYEONGCHANG – IOC/ WADA Data Leak | Targeted Intrusion Event

Olympics’ official website was offline for 12 hours and the network around venue was also down.

Source: https://www.cybereason.com/

Threat Landscape and Potential Impact

POTENTIAL ATTACKS

Creative, Complex, Sophisticated

- Social Engineering
- Phishing
- Insider Threats
- Privilege Misuse
- Malware
- Network / Application Attacks
- Denial of Service Attacks
- Ransomware
- State Sponsored Espionage
- Physical Theft

ATTACK SURFACE

Expanding & often beyond boundaries

Endpoint	Mobile	Crypto
Network	Apps / Code	People
Cloud	IoT	

SYSTEMS

Event's IT infrastructure	Communication	Transportation control
Video Surveillance	Ticketing and Commerce	Utilities
Health & Rescue centers	Logical access control	Physical access control

IMPACT to Large Scale

Increasingly complex & damaging

- Event Schedule
- Public Trust Implications
- International Relations
- Human Safety
- Reputational Damage
- Interruption to Operations
- Financial, Regulatory and Legal Implications
- Financial Loss

Threats Have Big Implications

Data Leakage

Public Trust Implications
International Relations
Risk impact to Expo 25 million visit target or vast financial services community

Event Disruption & Failure to Recover

Interruption to Operations
Event Schedule
Financial, Regulatory and Legal Compliance Implications
Reputational Damage

Compromised Systems

Financial, Regulatory and Legal Implications
Loss of Money, Privacy
Reputational Damage

IMPACTS

Physical Security Breakdown

Risk impact to Expo's 25 million visit target
Human Safety
Interruption to Operations

Failures to Mandatory Compliance

International Relations
Public Trust Implications
Financial, Regulatory and Legal Implications

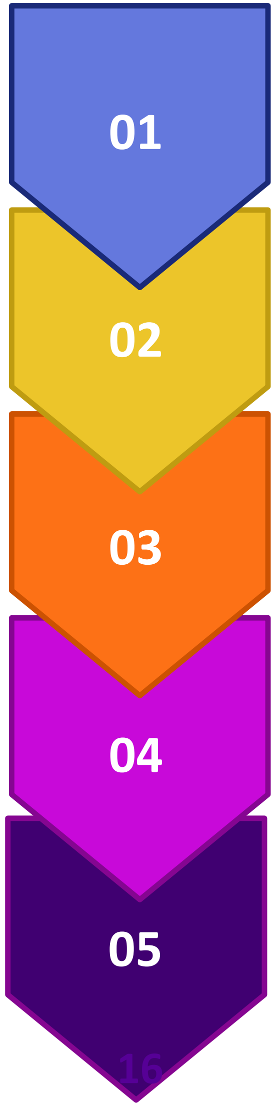
Geopolitical Risk (e.g. Espionage)

International Relations
Public Trust Implications
Interruption to Operations

Mega events and large scale systems' main objectives are reliable, seamless, and smooth operation -- and no downtime along with data integrity. The goal is to Provide a seamless experience that "wows" visitors and participants, and platform for innovation that engages people to create the future.

Solutions and Recommendations

Lifecycle Plan: Solutions and Recommendations Across a 12 to 24 Month Horizon



Strategy Development and Planning

Understand the scope of the event, program, problem. Divide it into key program areas: product, devops, GRC, etc. Develop an integrated plan, security architecture, and budget.

Short Term Partnerships / Long-Term Solutions

You start from zero. Leverage a few key partnerships with leading technology and advisory companies utilizing their previous large-scale experiences and specialized skillsets. Solve the immediate needs, and develop core competencies. Continue to partner where needed.

Government and Regulator Collaboration

Where needed, be sure to understand and leverage existing solutions for government entities or work with regulatory bodies to ensure alignment.

SDLC, Continuous Testing and Technical "Rehearsals"

Build security into the SDLC and have multiple approaches to testing, including 3rd parties. Perform threat modeling and define security scenarios and conduct technical rehearsals. Use crowdsourced security testing. Define what "done" looks like and conduct operational readiness / tabletop tests.

Scale Operational Capabilities

Utilize cloud services and SaaS solutions, and consolidate security operations where possible. Develop stringent SLAs for all aspects of security operations whether in-house or 3rd party providers.

Questions