

KREONET & KREONet2 Update (ATCF7)

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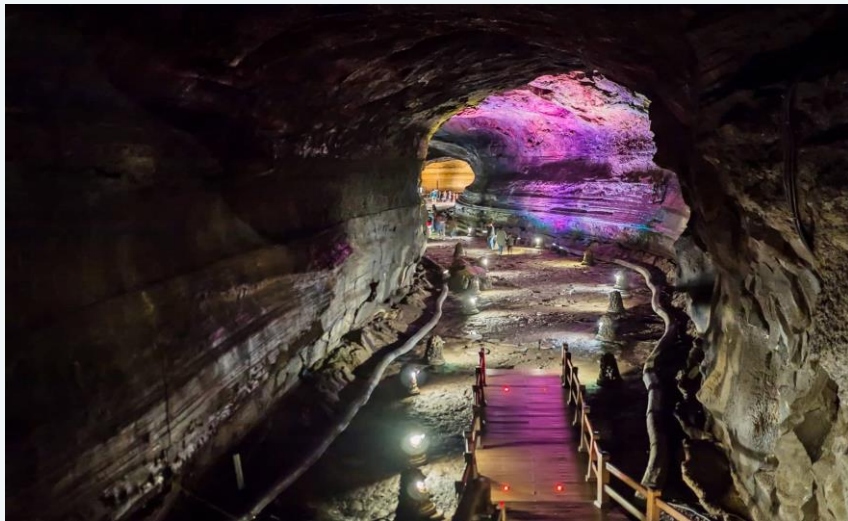
Welcome to JEJU Island



<Autumn Color Mt. Hanlla>



<AeWol Beach>



<ManJang Cave>



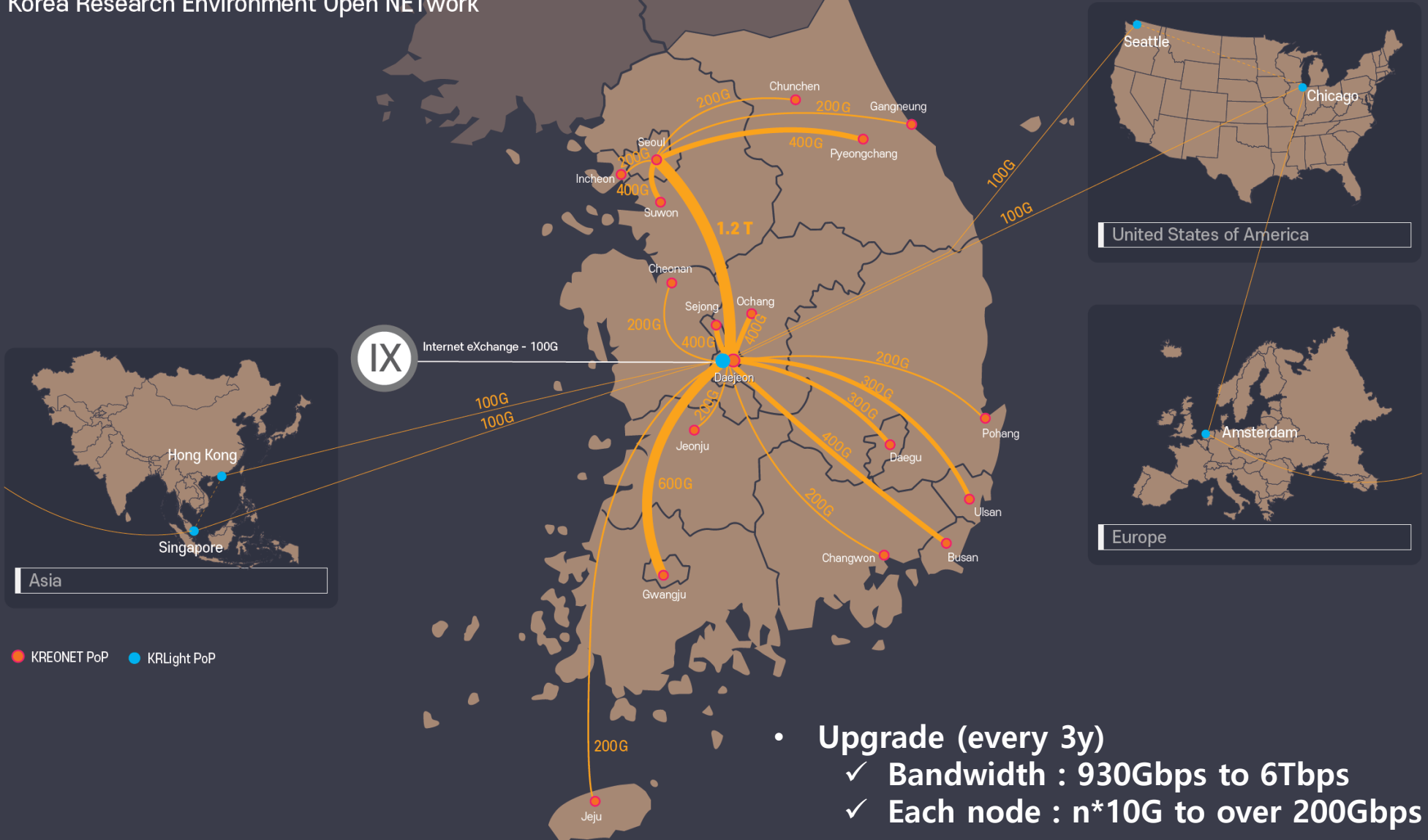
<SungSanILChulBong>

KREONET/KREONet2(ASI237/ASI7579)

- (1988) started with Korean National Science & Research Network.
- (2005) As a Core Member of GLORIAD project,
Started international research network service
- (2023) 6Tbps backbone with 18 Domestic Regional GigaPoPs
(Seoul, Deajeon, Gwangju, Busan, Changwon and so on)
- (2023) 600Gbps backbone with 6 International GigaPoPs
(Daejeon, Chicago, HongKong, Seattle, Amsterdam, Singapore)
- Support about 200 R&E organizations :
Government Research Institutes, Universities, Libraries and so on.
- Provide 365*24 NOC (Network Operation Center) Service
- Connected with Internet exchanges (KT, Sejong Telecom, Cogent, SG.GS, AMSIX)
and L2 direct peering with Clouds(Google, Amazon, Microsoft)
- Provides L1 LightPath service, L2 MPLS-TP, L3 IP service, VPN using Segment routing.

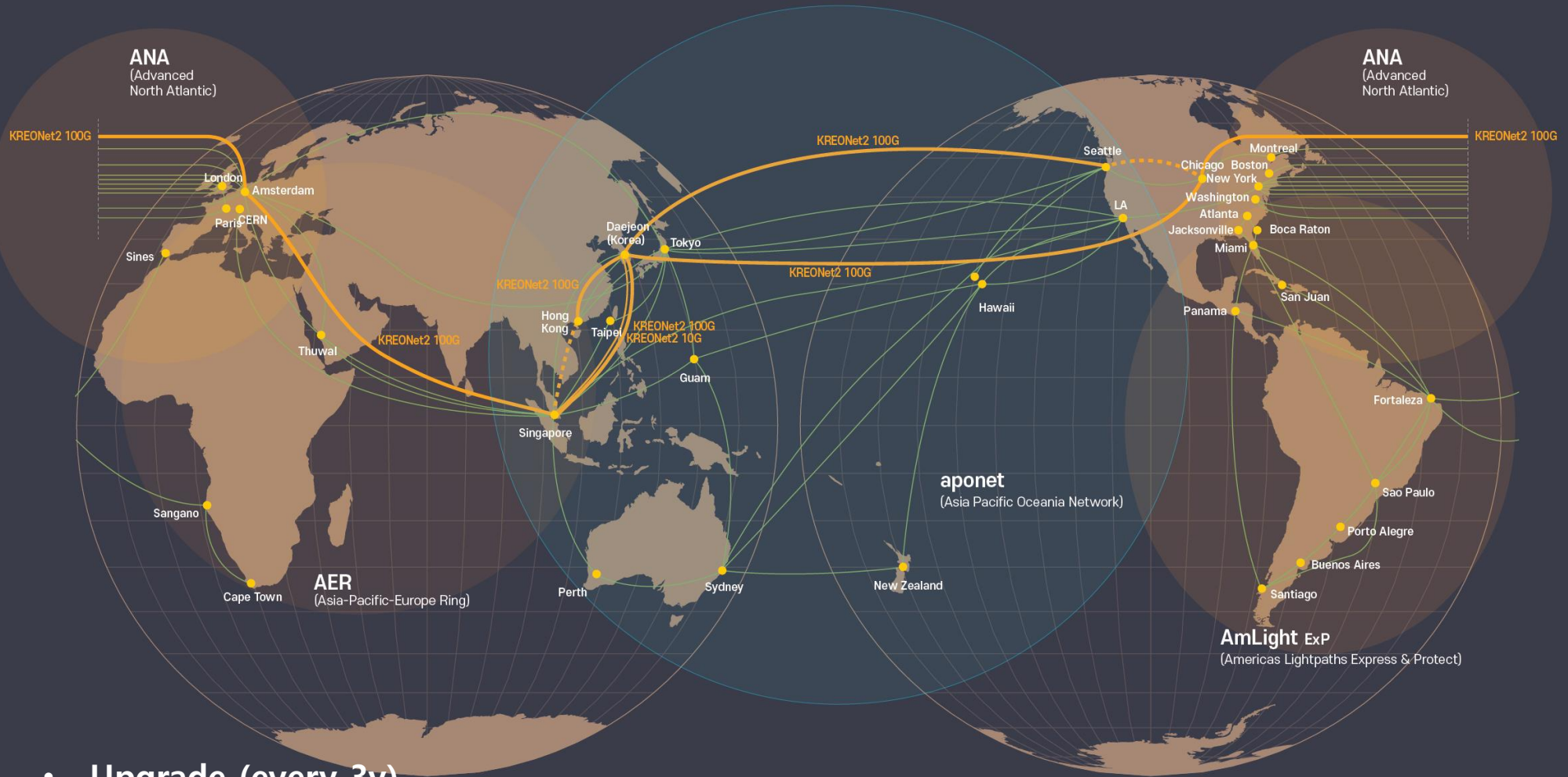
Map of KREONET 2023

Korea Research Environment Open NETwork



- Upgrade (every 3y)
 - ✓ Bandwidth : 930Gbps to 6Tbps
 - ✓ Each node : n*10G to over 200Gbps

Map of KREONET2 2023

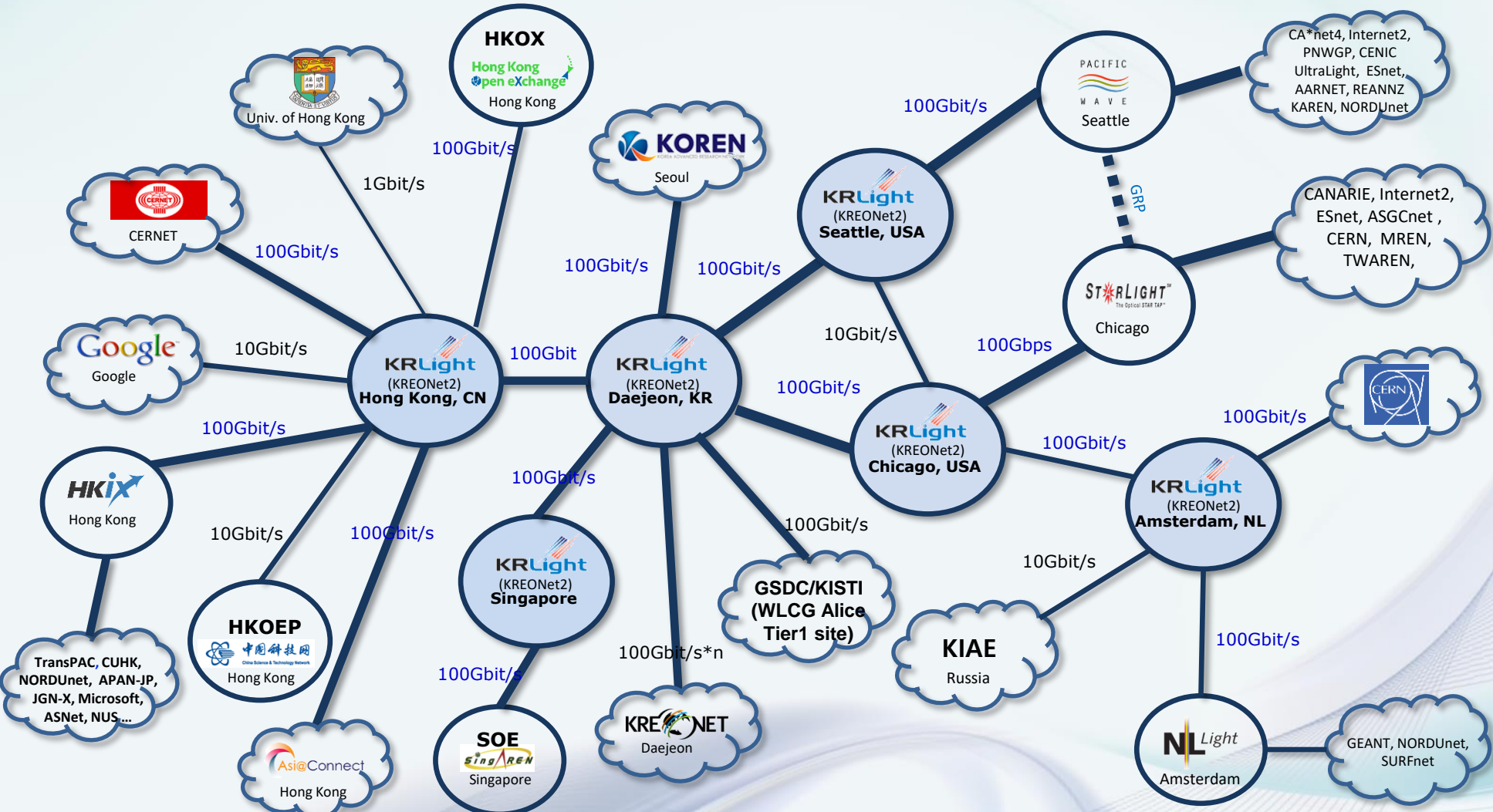


- Upgrade (every 3y)
 - ✓ Bandwidth : 350Gbps to 600Gbps
 - ✓ New SiGlobal 100G ring
 - ✓ ngapore PoP

— KREONet2/GLORIAD-KR
Global Ring Network for Advanced Applications Development

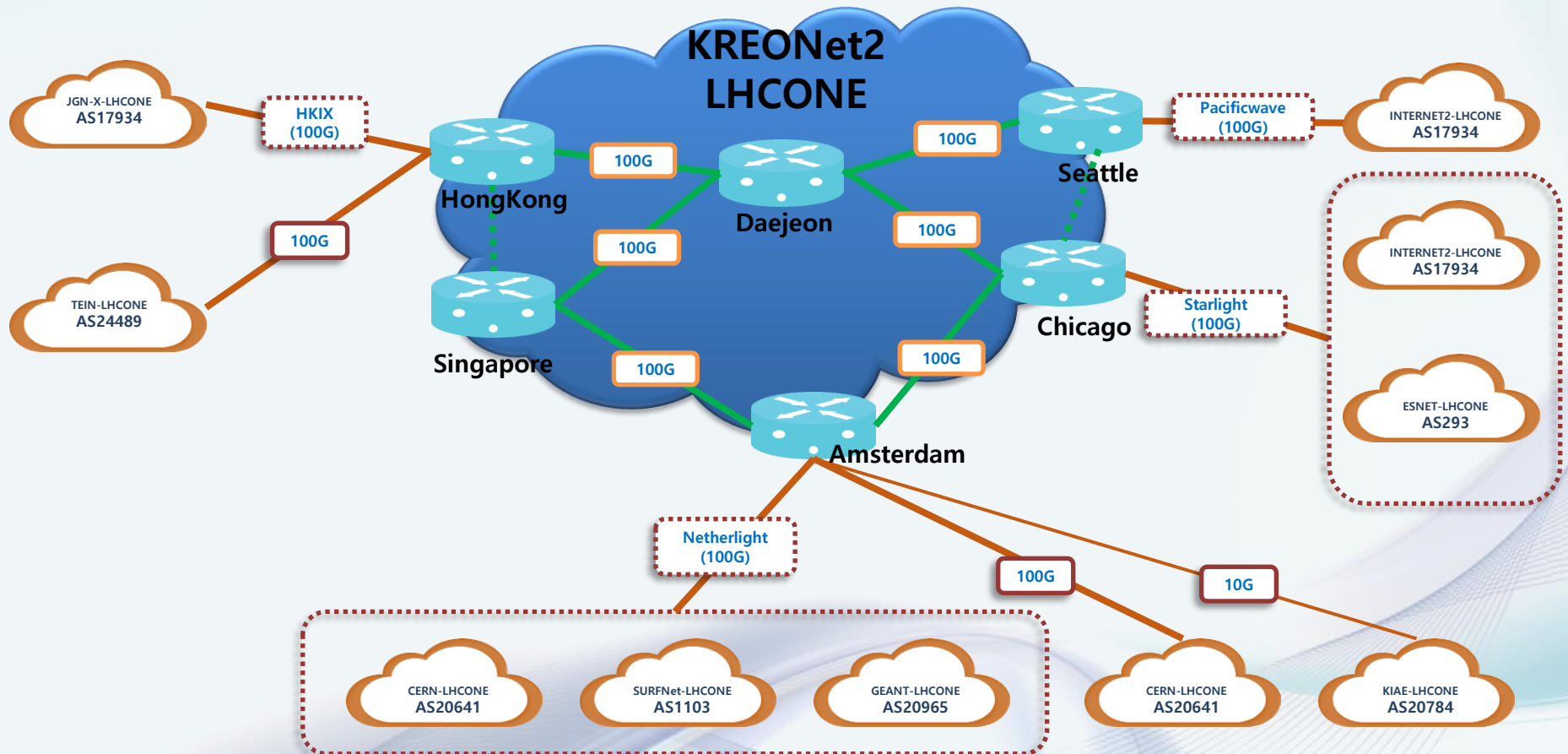
— Global R&E 100Gbps Network

KREONet2 Peers



LHCONE on KREONet2(2023)

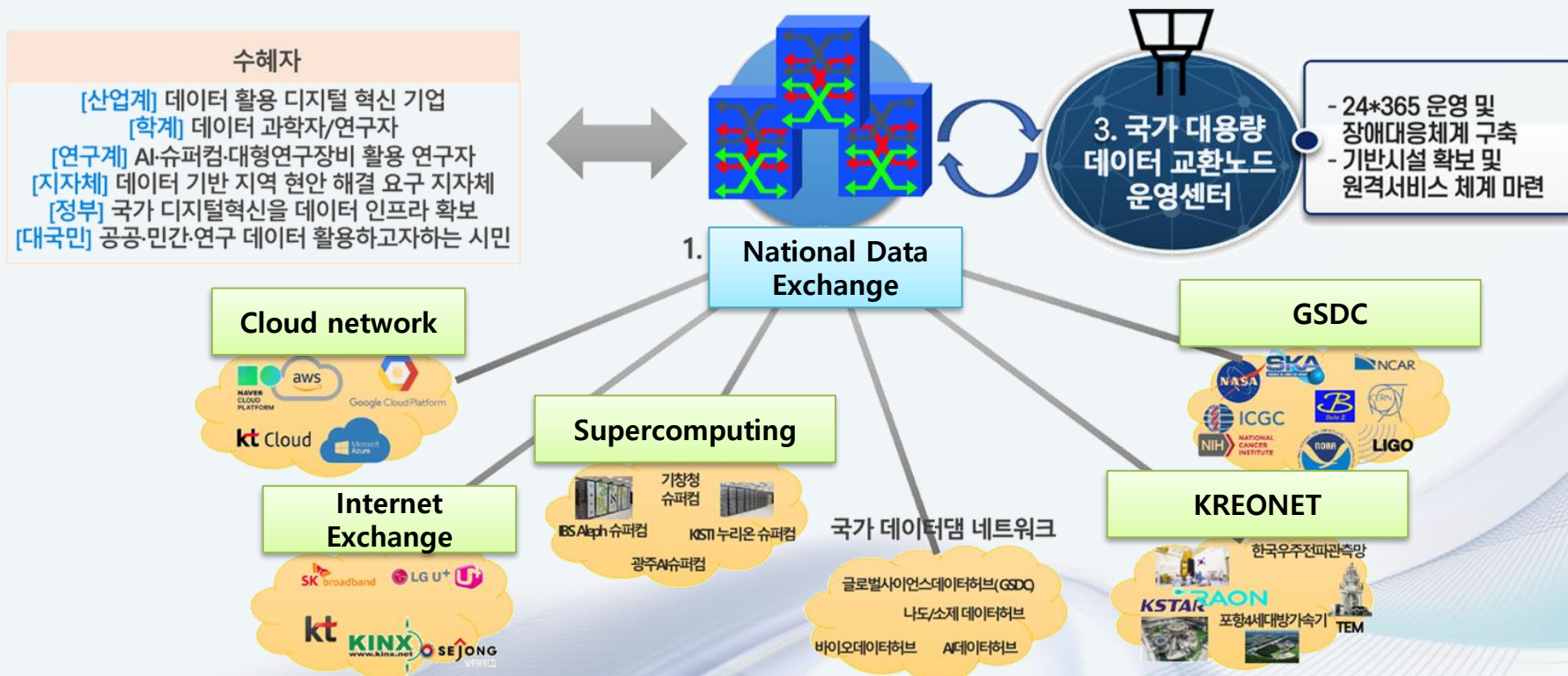
- Expanding our LHCONE network to Singapore



Data eXchange Node project in KREONET

- We started Data exchange node project (2023)
- Benchmarked AMdEX(Amsterdam Data Exchange

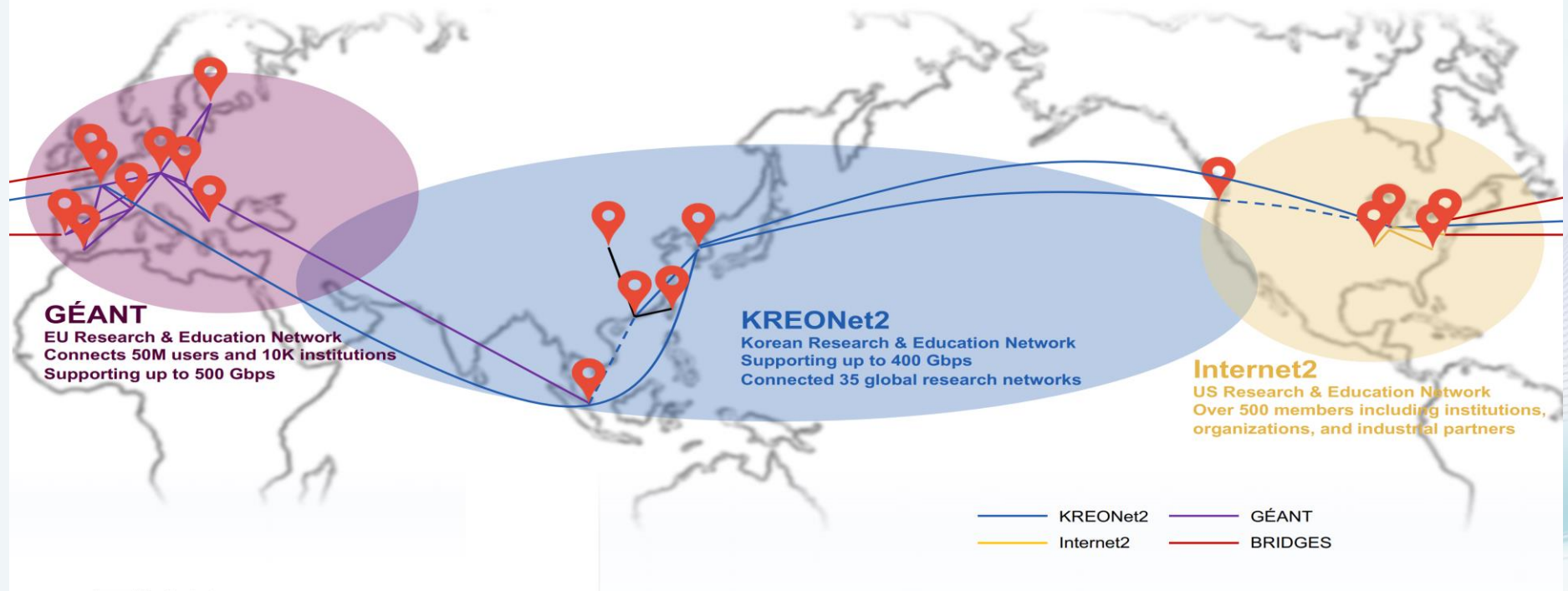
deXes your trusted data marketplace



SCION networks in KREONET

- SCION is one of future internet project. (production-level network)
- SCION(Scalability, Control, and Isolation On Next-Generation Networks)
- SCION(<https://scion-architecture.net/>)

Current SCIERA Connectivity (As of 2023)



Thanks for listening.
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KREONET/KREONet2 Infra. Upgrade

	2019 - 2023.6, Current	2023.6 – 2026.5, New
Backbone Capacity	(Domestic) 930Gbps (Seoul-Daejeon 100G λ *3=300G) (International) 310Gbps	(Domestic) 6Tbps (Seoul-Daejeon 600G λ *2=1.2T) (International) 610Gbps
Wavelength (λ : Lambda)	(Domestic) 100Gbps Wavelength (International) 100Gbps Wavelength	(Domestic) 100/600Gbps Wavelength (International) 100Gbps Wavelength
VPN Service	L1 VPN + 802.1Q VLAN	L1 VPN + 802.1Q VLAN L2/L3 VPN (MEF3.0 + Segment Routing) MPLS, MPLS-TP
Protection	(Domestic) L1: 50ms protection (International) Manual or more than 10s (STP/RSTP)	(Domestic) L1/L3: 50ms protection (International) L3: SR TI-LFA, 50ms protection
# of PoPs	(Domestic) 17 Regional Center (International) 5 PoPs	(Domestic) + Peongchang Regional Center (18) (International) + Singapore PoP (6)
routes_prefix (FIB)	Half 1M	More than 2M (IPv4 4M, IPv6 2M)
others	(Domestic) PTP network (International) 100G Star topology	(Domestic) 5 Ring network + PTP network (International) 100G Global Ring topology