Closing Ceremony

By Parag Khanna

The Global Connectivity Revolution

Skeletal System → **Transportation**

Highways, railways, bridges, tunnels, airports, seaports

Vascular System → **Energy**

Oil & gas pipelines and refineries, electricity grids and power plants

Nervous System → **Communication**

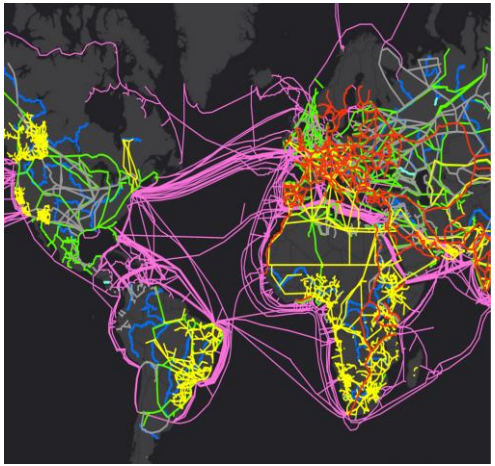
Internet cables, satellites, data centers

The Infrastructural Matrix: Exoskeleton on the Planetary Body

Evolving the World Map: The Rise of Functional Geography

Natural Geography

Political Geography



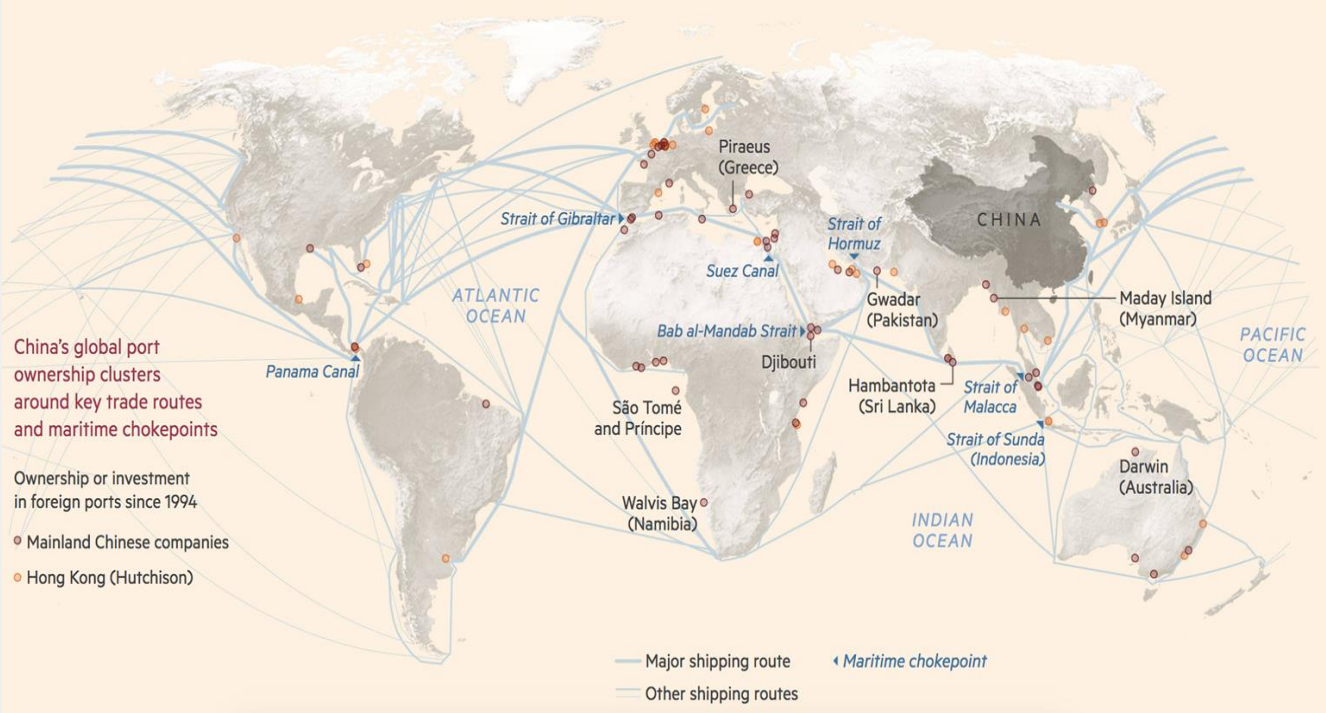
Functional Geography

“What we build today will last centuries.” - *Santiago Calatrava*

Plugging into the Global Urban Network Civilization

Maritime Enclaves Connect the World Economy

- Major canals widening and port facilities expanding
- Restructuring of global shipping market will maximize efficiency and pursue new routes
- Technological efficiencies to smooth global trade flows

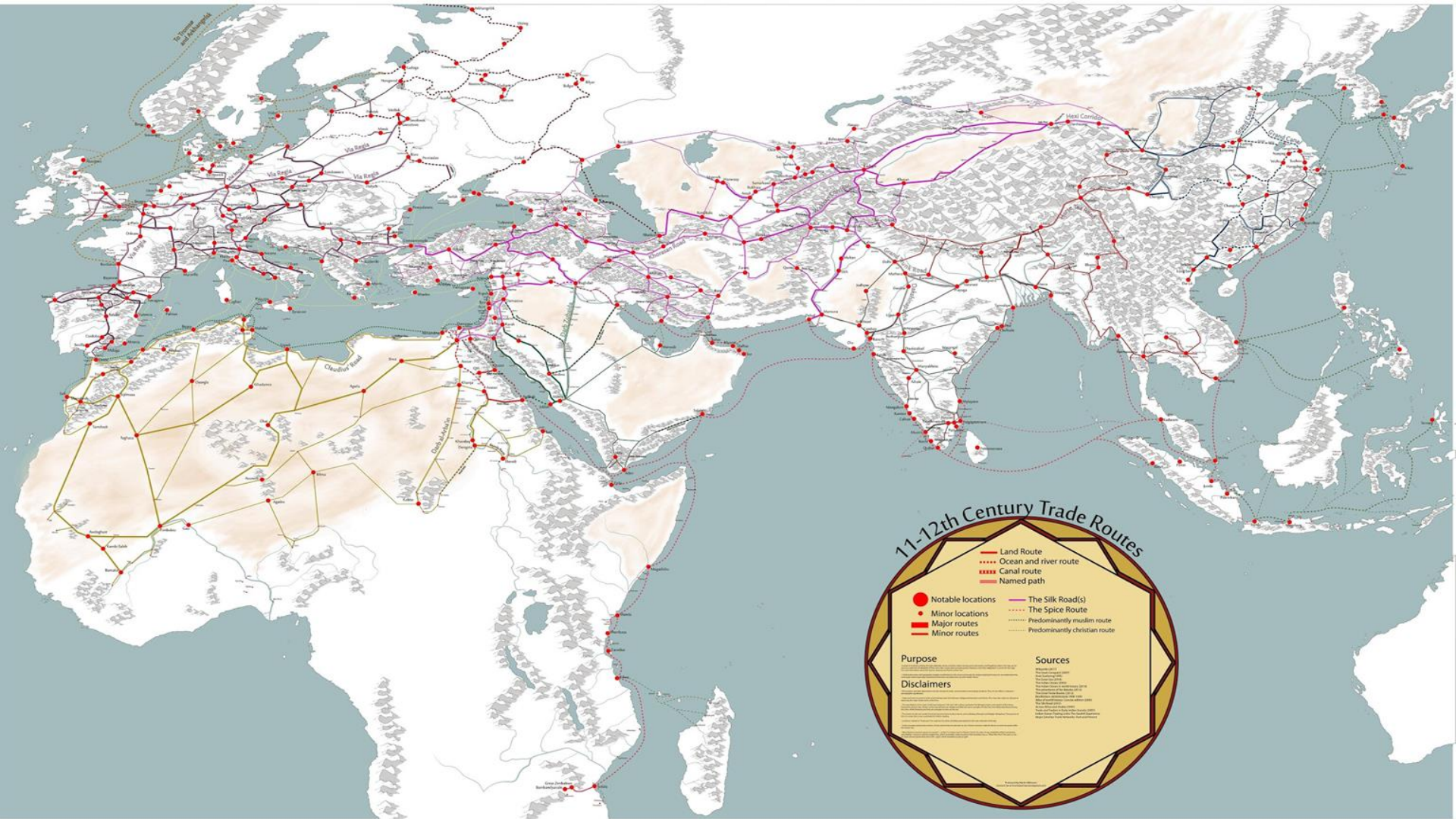


The Infrastructure-Data Dynamic

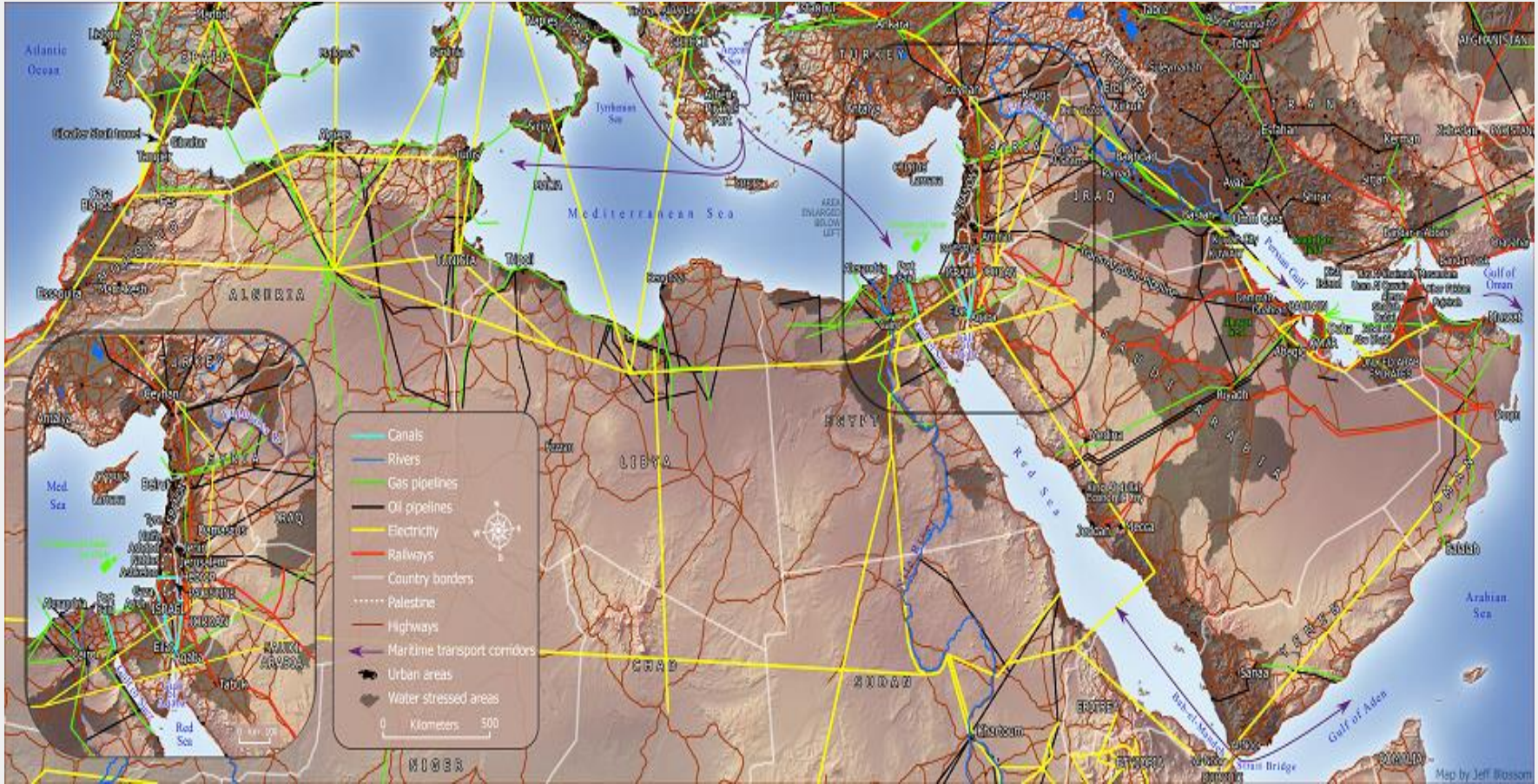
- **Smart homes of the future**
  - Temp. controls (Nest), Lighting (Digital Lumens, Deako)
  - Security systems/ Surveillance (Ackerman, Vivint)

- **Smart sensors enable the industrial IoT**
  - M2M equipment comms. (Cisco, Nokia, IBM, Huawei)
  - Optimize factory operations and predictive maintenance (e.g. MEMS accelerometers- Bosch Sensortec)
  - NFC/RFID sensors for eco. efficiency (Identitiv uTrust disposable sensors in indoor climate monitoring)

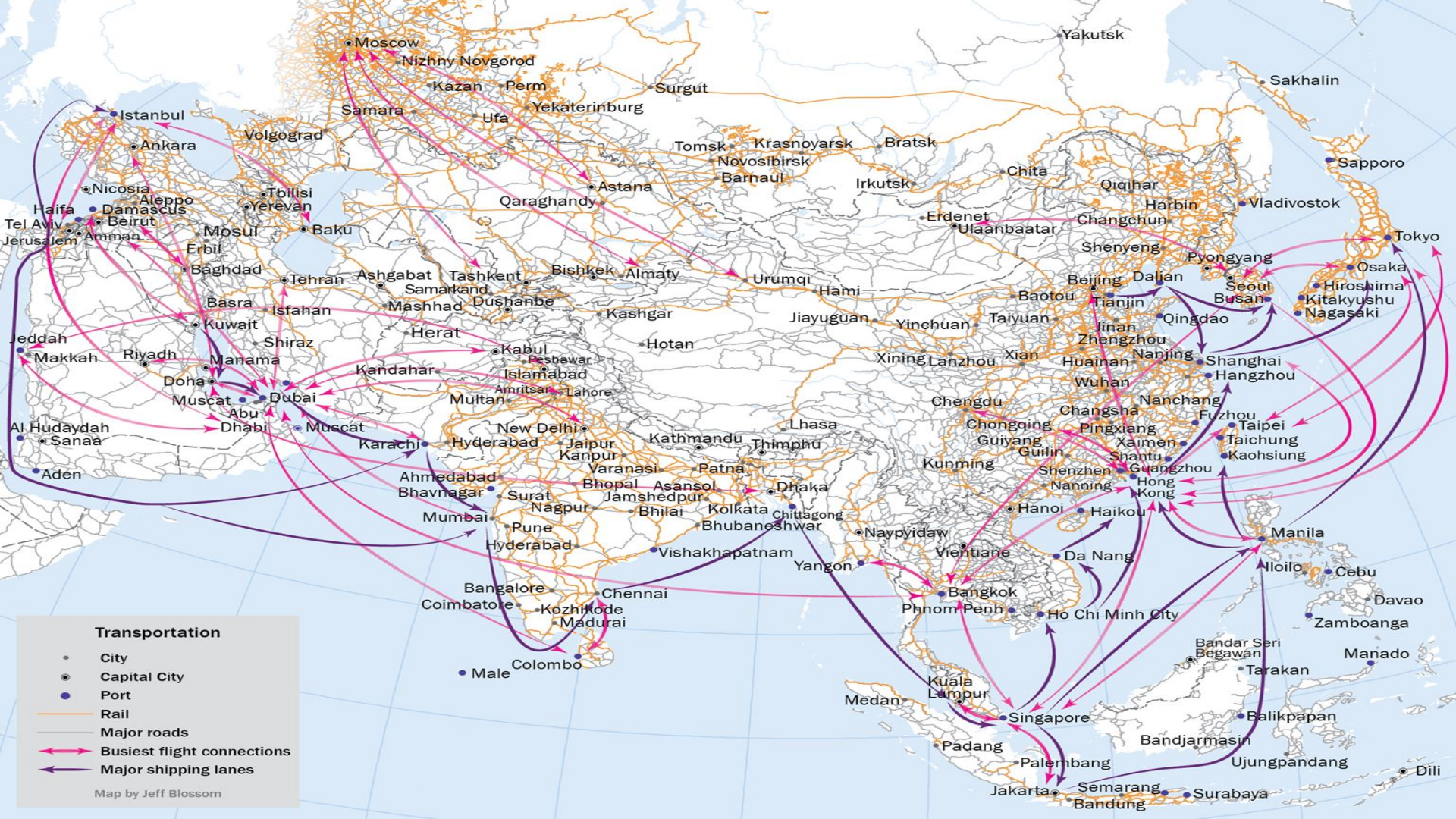
- **Urban IoT: Maximizing mobility**
  - Throughput operations: Terminals, airports, railways, etc.
    ERP, multi-modal optimization based on dynamic traffic management, weather, road conditions
  - routing (Ridlr [India], Moovit [Israel], MobilityX [Singapore])
  - Mobile charging stations (Shenzhen Click Technology Co.)
  - Urban data analytics
    Water levels, wastewater management, pollution sensors, consumption monitoring, dynamic metering for renewable grid feedback, bridge integrity inspection and load monitoring


11-12th Century Trade Routes
Land Route
Ocean and river route
Canal route
Named path
Notable locations
Minor locations
Major routes
Minor routes
The Silk Road(s)
The Spice Route
Predominantly muslim route
Predominantly christian route
Purpose
Disclaimers
Sources
Via Regia
Claudius' Road
Hexi Corridor
Grand Canal

Sykes-Picot to *Pax Arabia*: Frail Border to Strong Connections



East Meets West: Eurasia’s Iron Silk Roads


Transportation
City
Capital City
Port
Rail
Major roads
Busiest flight connections
Major shipping lanes
Map by Jeff Blossom
Moscow
Nizhny Novgorod
Kazan
Perm
Surgut
Yakutsk
Sakhalin
Samara
Ufa
Yekaterinburg
Istanbul
Ankara
Volgograd
Tomsk
Krasnoyarsk
Bratsk
Novosibirsk
Barnaul
Irkutsk
Chita
Sapporo
Nicosia
Aleppo
Tbilisi
Yerevan
Haifa
Damascus
Tel Aviv
Beirut
Jerusalem
Amman
Mosul
Baku
Astana
Qaraghandy
Qiqihar
Harbin
Vladivostok
Erdenet
Ulaanbaatar
Changchun
Tokyo
Shenyeng
Pyongyang
Erbil
Baghdad
Tehran
Ashgabat
Tashkent
Samarkand
Bishkek
Almaty
Urumqi
Hami
Beijing
Dalian
Seoul
Busan
Osaka
Hiroshima
Kitakyushu
Nagasaki
Basra
Isfahan
Mashhad
Dushanbe
Kashgar
Baotou
Tianjin
Qingdao
Kuwait
Jiayuguan
Yinchuan
Taiyuan
Jinan
Zhengzhou
Jeddah
Shiraz
Herat
Hotan
Makkah
Riyadh
Manama
Kabul
Peshawar
Islamabad
Xining
Lanzhou
Xian
Huainan
Nanjing
Shanghai
Hangzhou
Doha
Kandahar
Amritsar
Lahore
Wuhan
Muscat
Dubai
Multan
Chengdu
Nanchang
Abu
Dhabi
Muscat
Changsha
Fuzhou
Taipei
Taichung
Kaohsiung
Al Hudaydah
Sanaa
New Delhi
Lhasa
Chongqing
Pingxiang
Guiyang
Xaimen
Karachi
Hyderabad
Jaipur
Kathmandu
Thimphu
Kanpur
Guilin
Shantu
Kunming
Aden
Varanasi
Patna
Shenzhen
Guangzhou
Ahmedabad
Bhopal
Asansol
Dhaka
Nanning
Hong Kong
Bhavnagar
Surat
Jamshedpur
Nagpur
Bhilai
Kolkata
Chittagong
Hanoi
Haikou
Mumbai
Pune
Bhubaneshwar
Naypyidaw
Manila
Hyderabad
Vishakhapatnam
Vientiane
Da Nang
Yangon
Iloilo
Cebu
Bangalore
Chennai
Bangkok
Coimbatore
Kozhikode
Phnom Penh
Ho Chi Minh City
Davao
Madurai
Zamboanga
Bandar Seri Begawan
Manado
Colombo
Male
Tarakan
Kuala Lumpur
Medan
Singapore
Balikpapan
Bandjarmasin
Padang
Palembang
Ujungpandang
Dili
Jakarta
Semarang
Surabaya
Bandung

Global Evolution: From Connectivity to Resilience

No more chokepoints

Competitive connectivity builds pathways for supply to meet demand

Ring-fencing volatility: Ukraine, Iraq, Libya, South China Sea

Abundance and Stability

From “peak oil” to “gas glut”

US oil sales to China

Toward Antifragility

War is an event; networking building is a process

THANK YOU!

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