

*IEEE Consumer Technology Society*

# Infrastructure & Opportunity



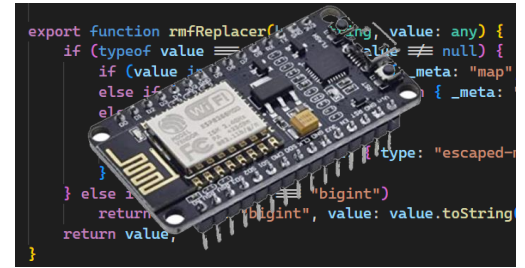
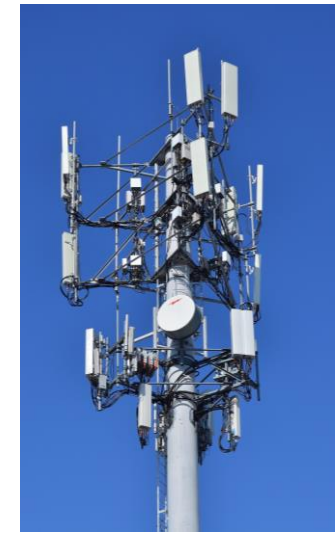
## Software + Connectivity

This is a draft.  
Please send feedback  
and suggestions to  
[InfraTalk202301@bob.ma](mailto:InfraTalk202301@bob.ma)

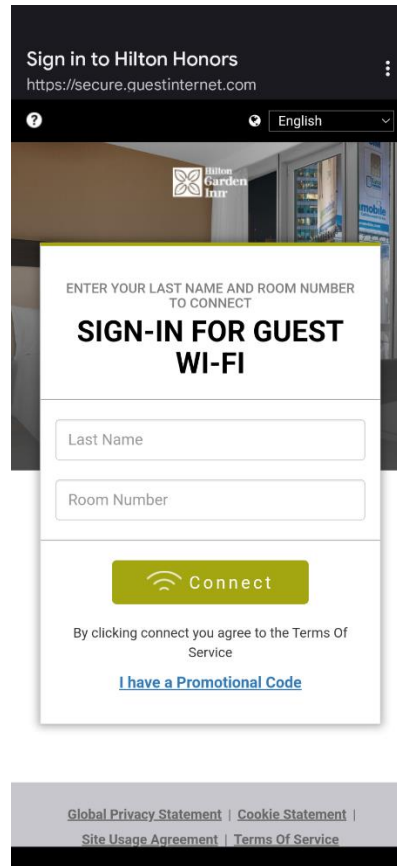
# ABCDEFGHIJKLMNOPQRSTUVWXYZ

## 方思騰

### 01



# The “Agree” screen





“Connected Anywhere in the World”

# From Telecom → Infrastructure



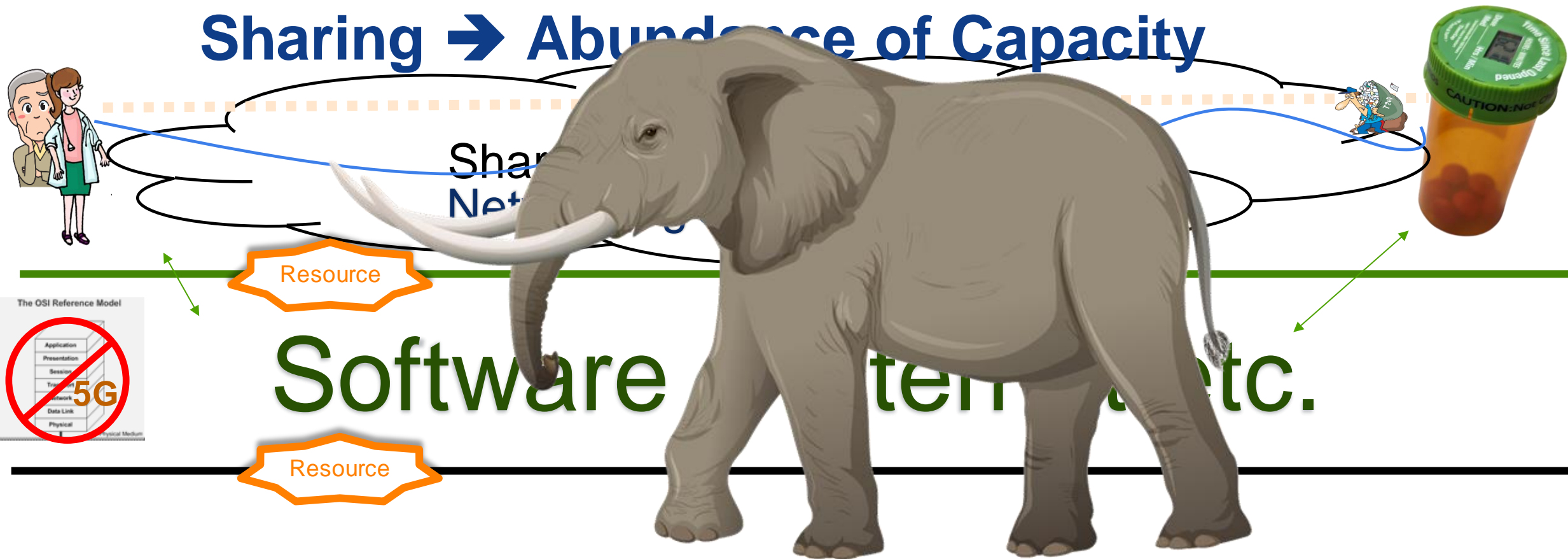
#1 → Dest1 00101101010100011  
#2 → Dest1 00101101010100011  
#5 → Dest1 00101101110100011  
#2 → Dest1 00101101110100011


Hello

#4 → Dest1 00101101110100011


# Infrastructure as a Resource

## Sharing → Abundance of Capacity





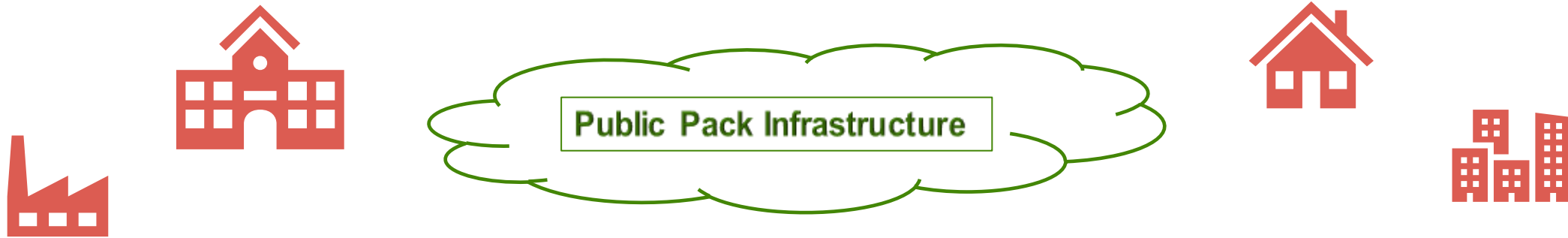
“ Reformers proposed the establishment of a ‘Central Thinking Office,’ a precursor of today’s urban control room or city dashboard. ”



“ The card catalog could be the indexing system for any business... It could even index the operations of a city. ”



# Services Facilities → Infrastructure



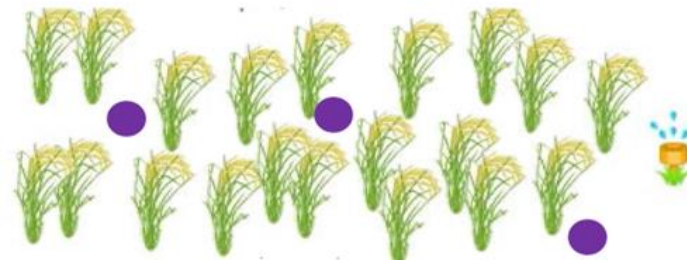


# It can be Complicated

Communication Technology	Standard/governing bodies	Frequency	Range (approximately)	Data rate	Topology
Bluetooth	IEEE 802.15.1	2.4 GHz	1-100 m	1Mb/s	Point-to-point
Z-Wave	-	900MHz	100m	9.6-100 kb/s	Star, cluster, mesh
ZigBee	IEEE 802.15.4	2.4 GHz	10-20 m	25 kb/s	Mesh
LoRaWAN	LoRa Alliance	867-869 MHz	2-5 km	290 b/s-50 kb/s	star
WIFI	IEEE 802.11 (a/b/g/n)	2.4 GHz, 3.6 GHz, 4.9 GHz, 5 GHz	100 m	1-54 Mb/s	Star
RFID	ISO, EPCglobal	125-134 kHz, 13.56 MHz, 860-960 MHz, 2.45 GHz	2 m	100 kbps	Point-to-point
6LoWPAN	IETF	915 MHz	30 m	250 Kbps	Star, mesh
NFC	ISO 18092	13.56MHz	<0.2 m	106, 212 or 424 kbits	Mesh
UBW	IEEE 802.15.3	2400MHz	10-30 m	11-55Mbps	Star



# It can be simple: Ambient Connectivity™



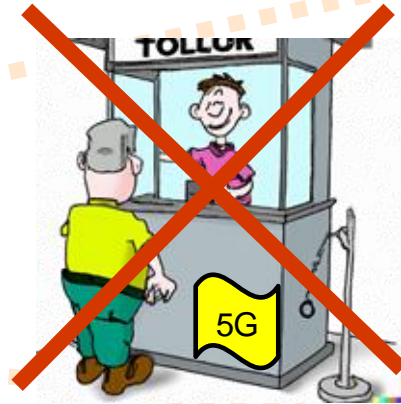
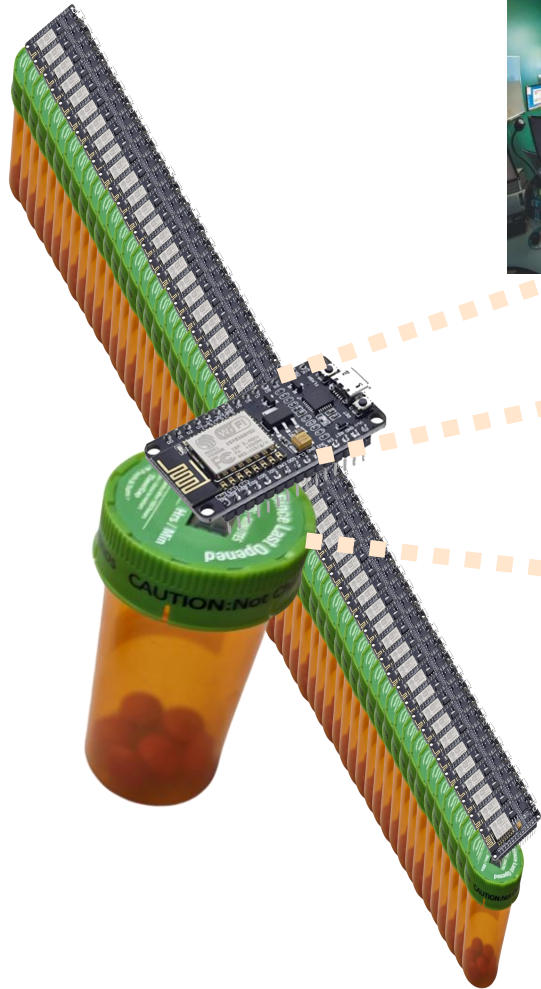
**LION COLLAR**

€360.00

Donate a collar  
confli



# Stakeholders



# The (non-cost) of Realizing Abundance



Cost >\$1,000,000/mile  
*Free to use*  
*Costs are Rising*  
*Owned by Community*



Broadband  
Cost ~\$50,000/mile  
**\$1000/Year Forever!**

**Multiple:  
Redundancy, ~~Not competition~~  
All profitable??**

If Ownership!  
*Free to use!*

**Inherent  
Conflict of  
Interest**

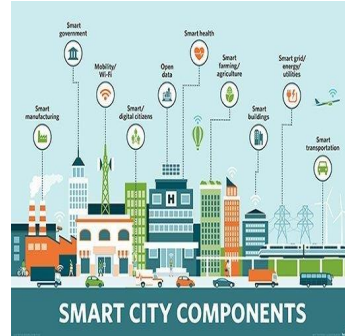


\$40,000  
Subscribers  
5G/MIMO



\$1000 Mimo!  
*Free to use*  
Costs Plummeting

# Making it Happen



The key is the geographic footprint  
*AKA Infrastructure*  
Residents are the stewards

# Further Reading

- <https://Frankston.com>
- <https://rmf.vc/FurtherReading>
- [AC202212@bob.ma](mailto:AC202212@bob.ma)
  
- Terms to think about
  - The Between vs. Networks
  - Ambient Connectivity as architecture
  - Enabling the virtuous cycle

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and suggestions to  
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# Notes & Scrap Heap Slides Lie Beyond

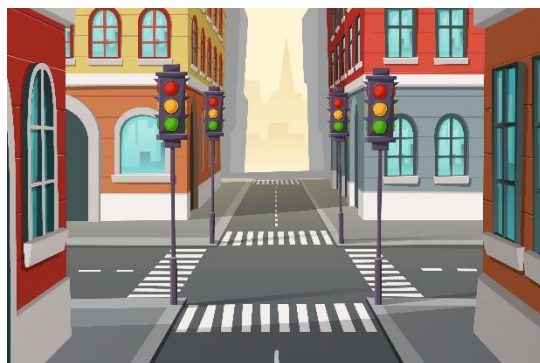


# Electrify Everything!





# Denying Ourselves Abundance



Cost >\$1,000,000/mile  
*Free to use*  
*Costs are Rising*  
*Owned by Community*



Broadband  
Cost ~\$50,000/mile  
**\$1000/Year Forever!**

**Multiple:  
Redundancy, ~~Not competition~~  
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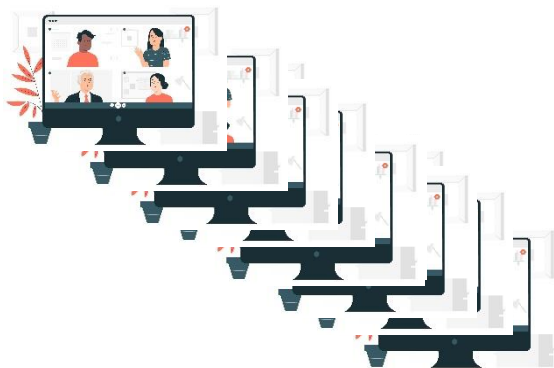


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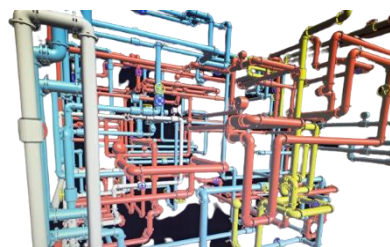


\$1000 Mimo!  
*Free to use*  
Costs Plummeting

# Shifting the Paradigm



Not Facebook  
Abundance of What  
Surface and behind  
Connectivity



#1 → Dest1 00101101010100011  
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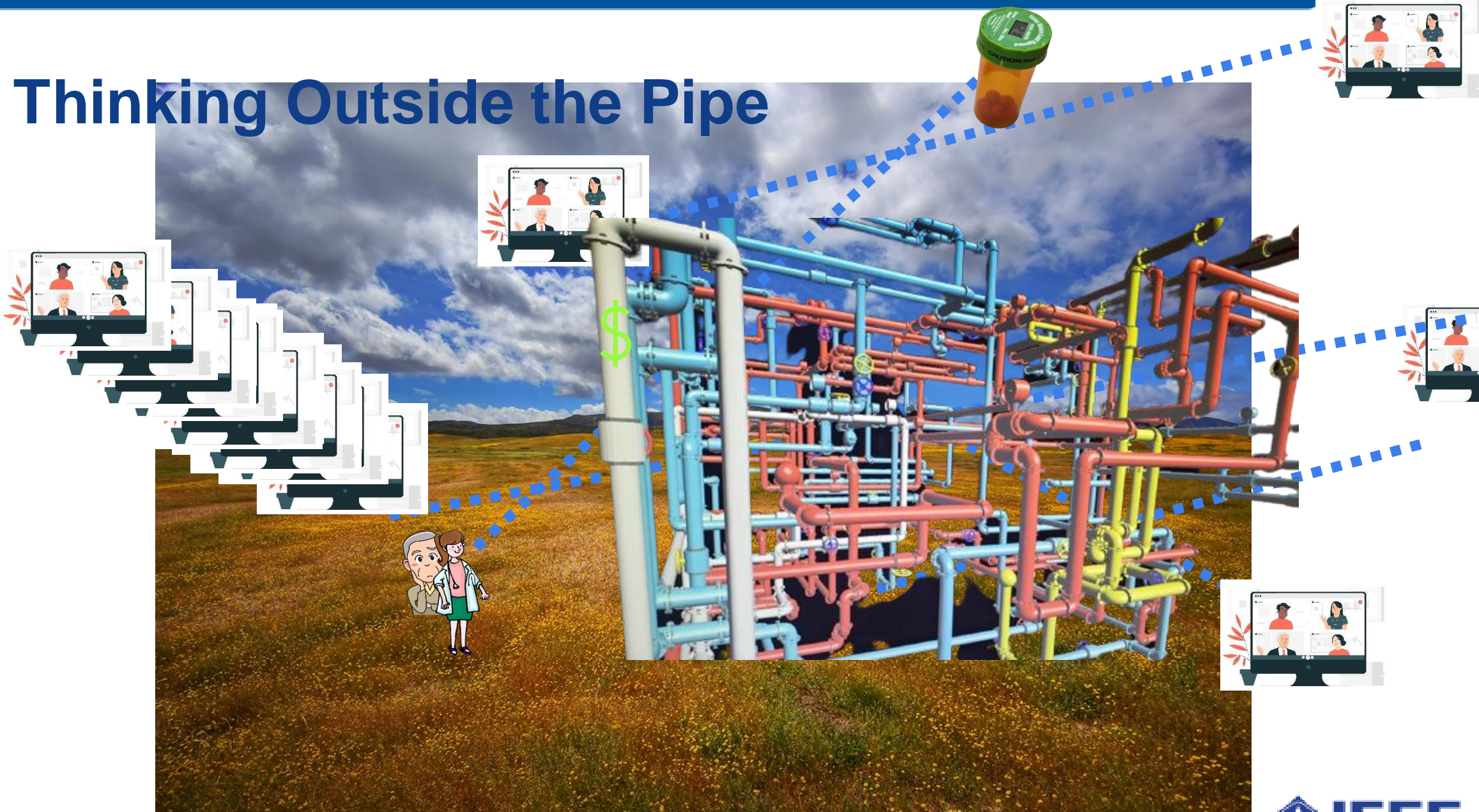
Hello

Hello

#4 → Dest1 00101101110100011



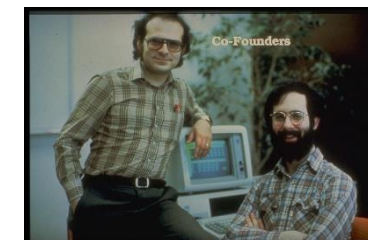
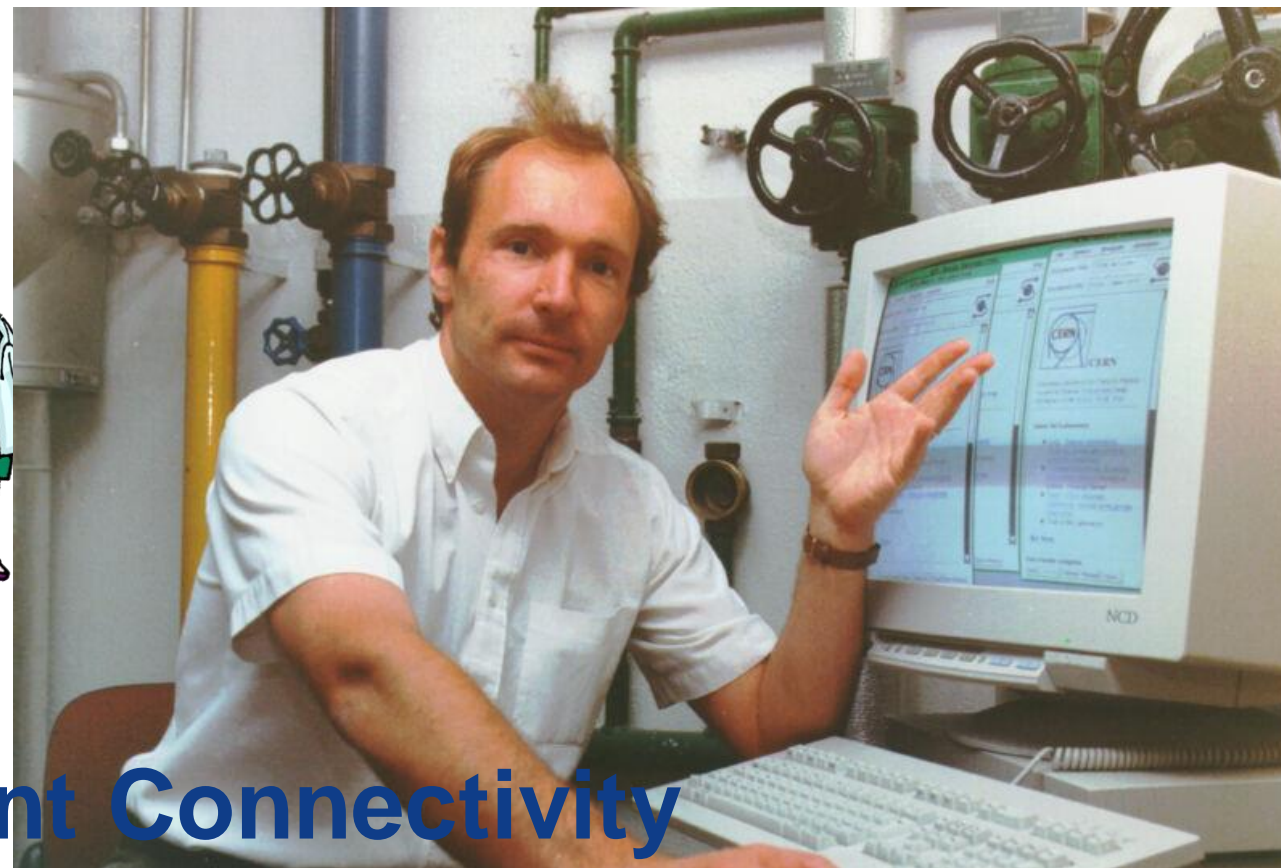
# Thinking Outside the Pipe



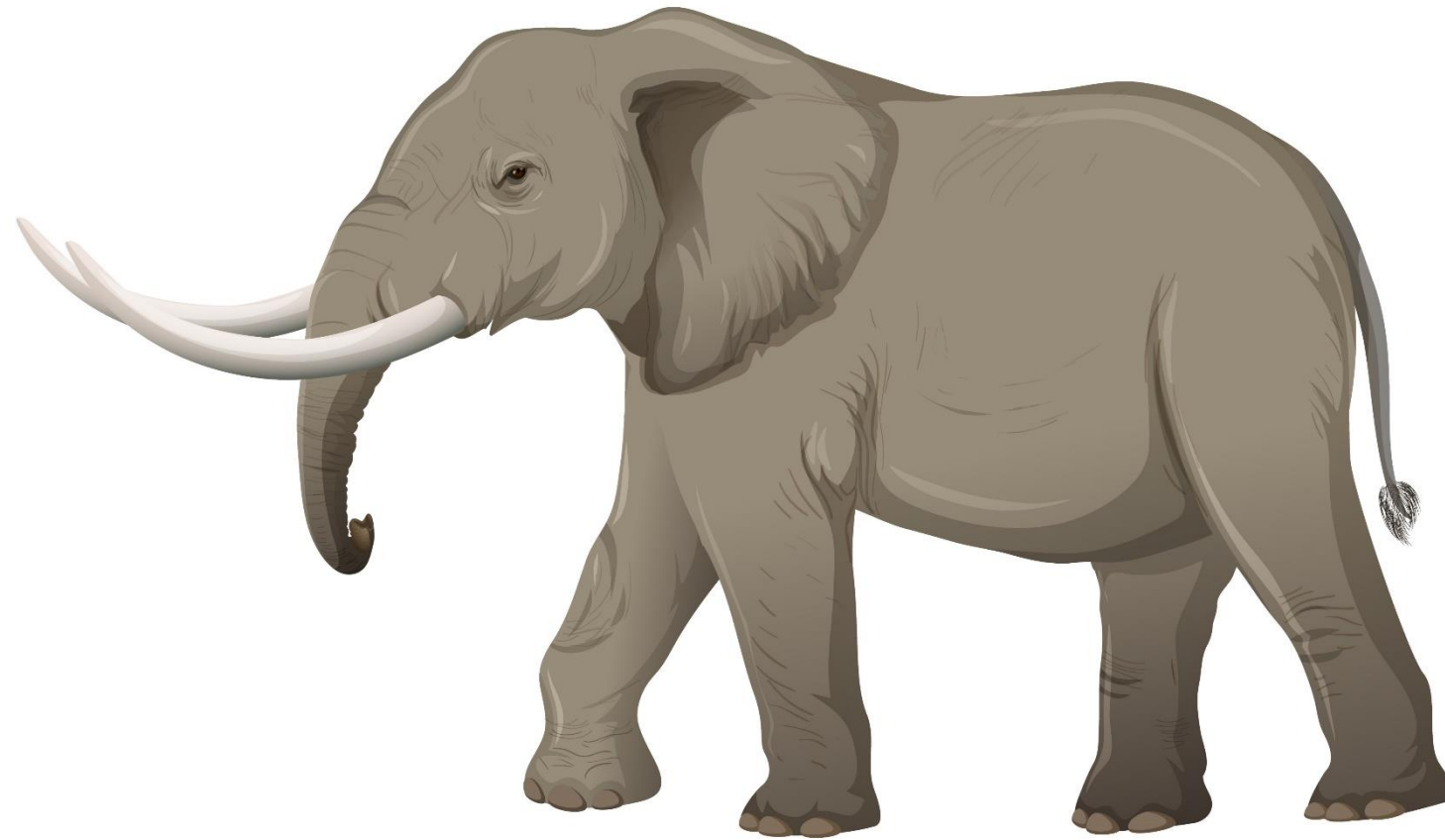
# Traditional – a “pipe” **potential** connection

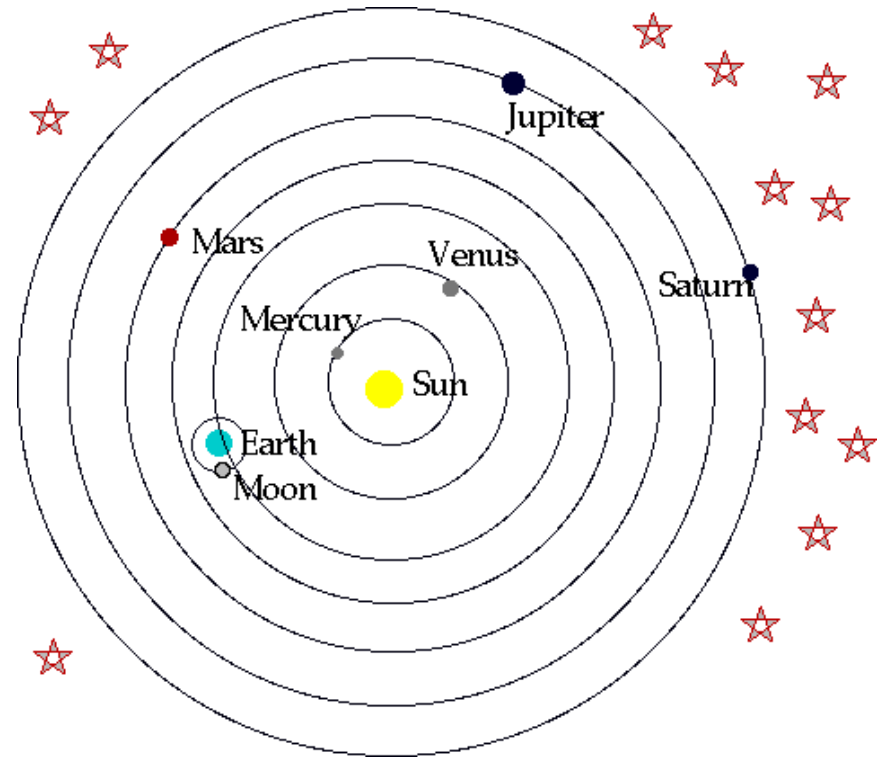
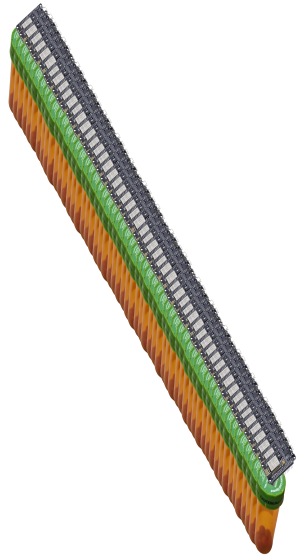


# Enabling the Future Creating Value



## Ambient Connectivity Public Packet Infrastructure





# One-in-Million – Implement and Share All Needed Resources to Build On & Repeat



And many many others  
less well known



## The Virtuous Cycle



# Videos



<https://www.pexels.com/>

# Thinking Outside the Pipe

