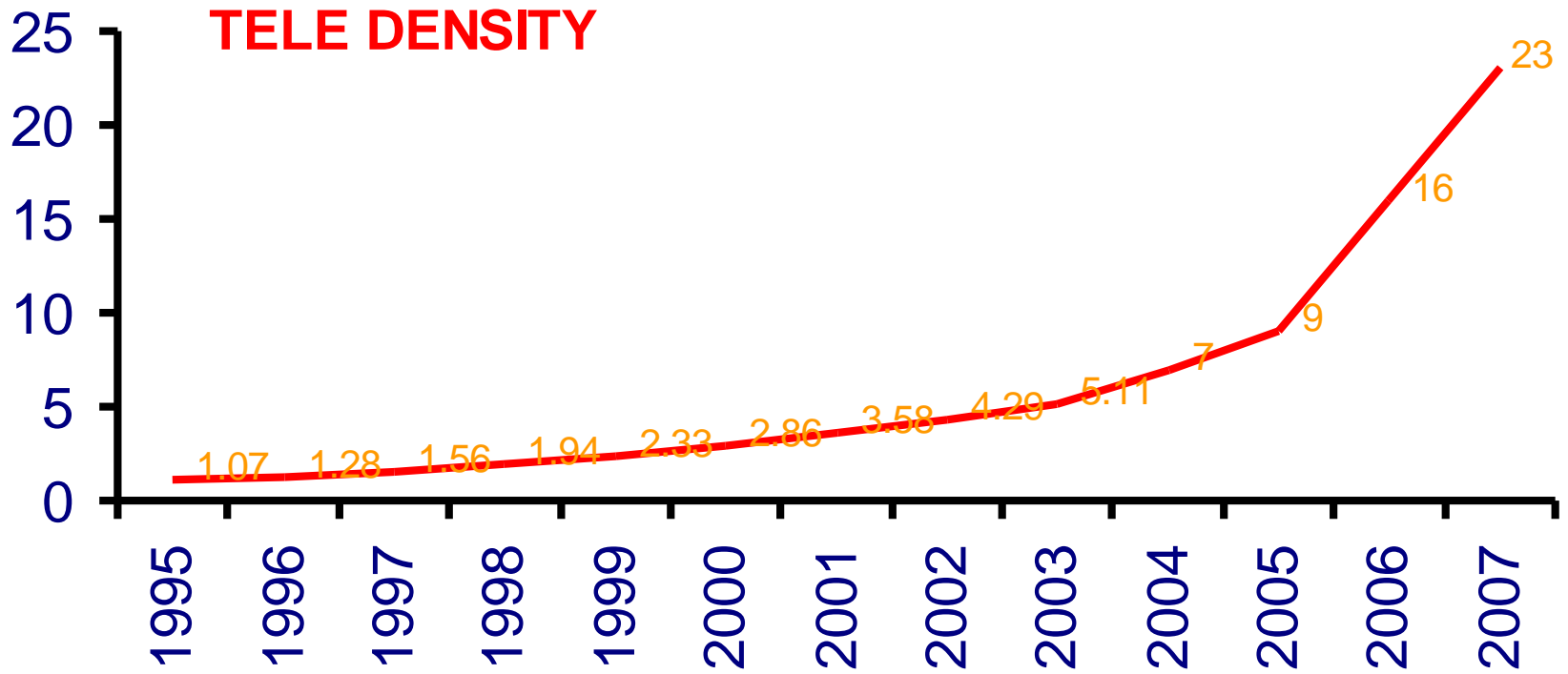


Historical Perspective
of
Regulations
under TRAI Act 1997
and
Future Trends

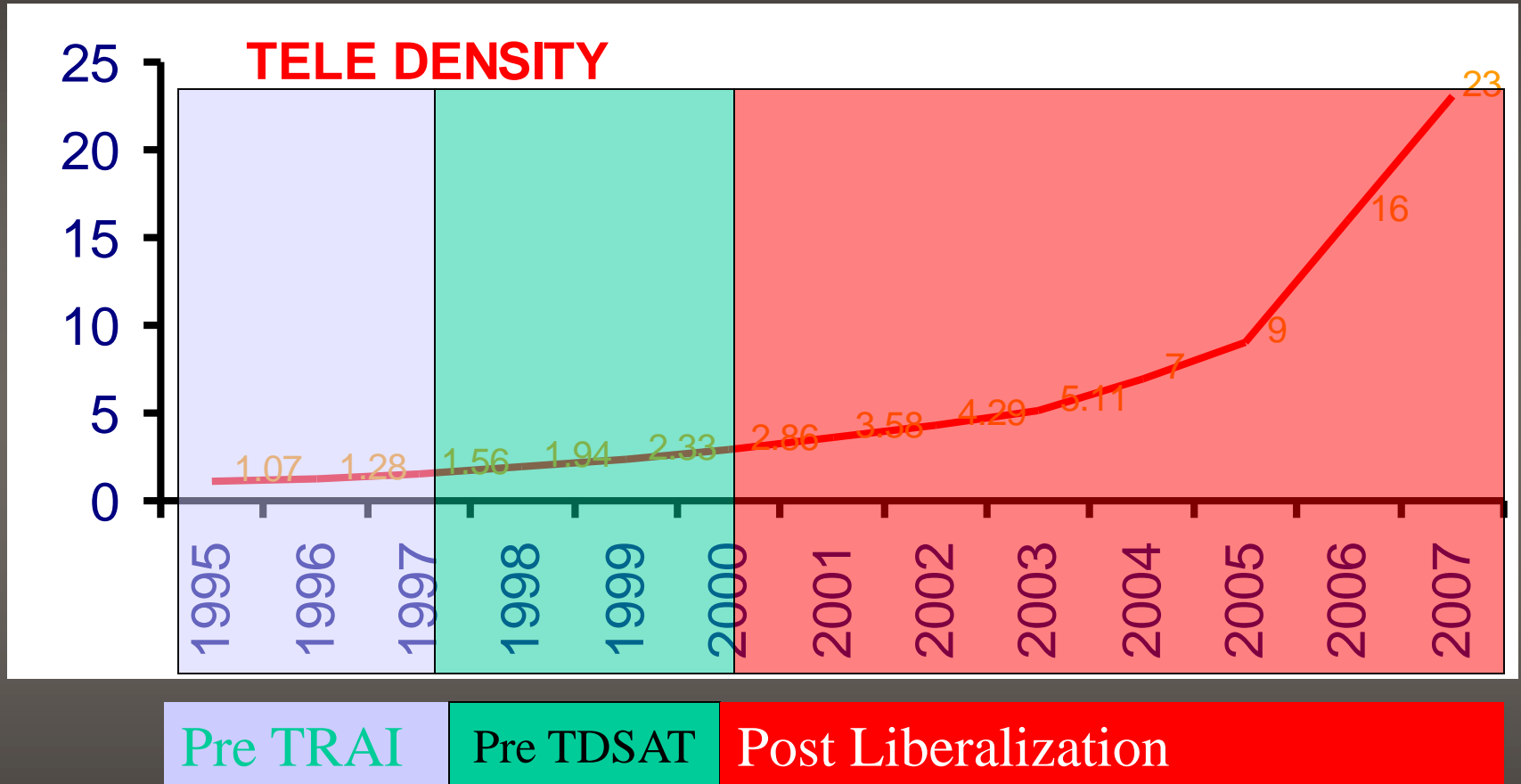
K.Sridhara

Member (T), TC

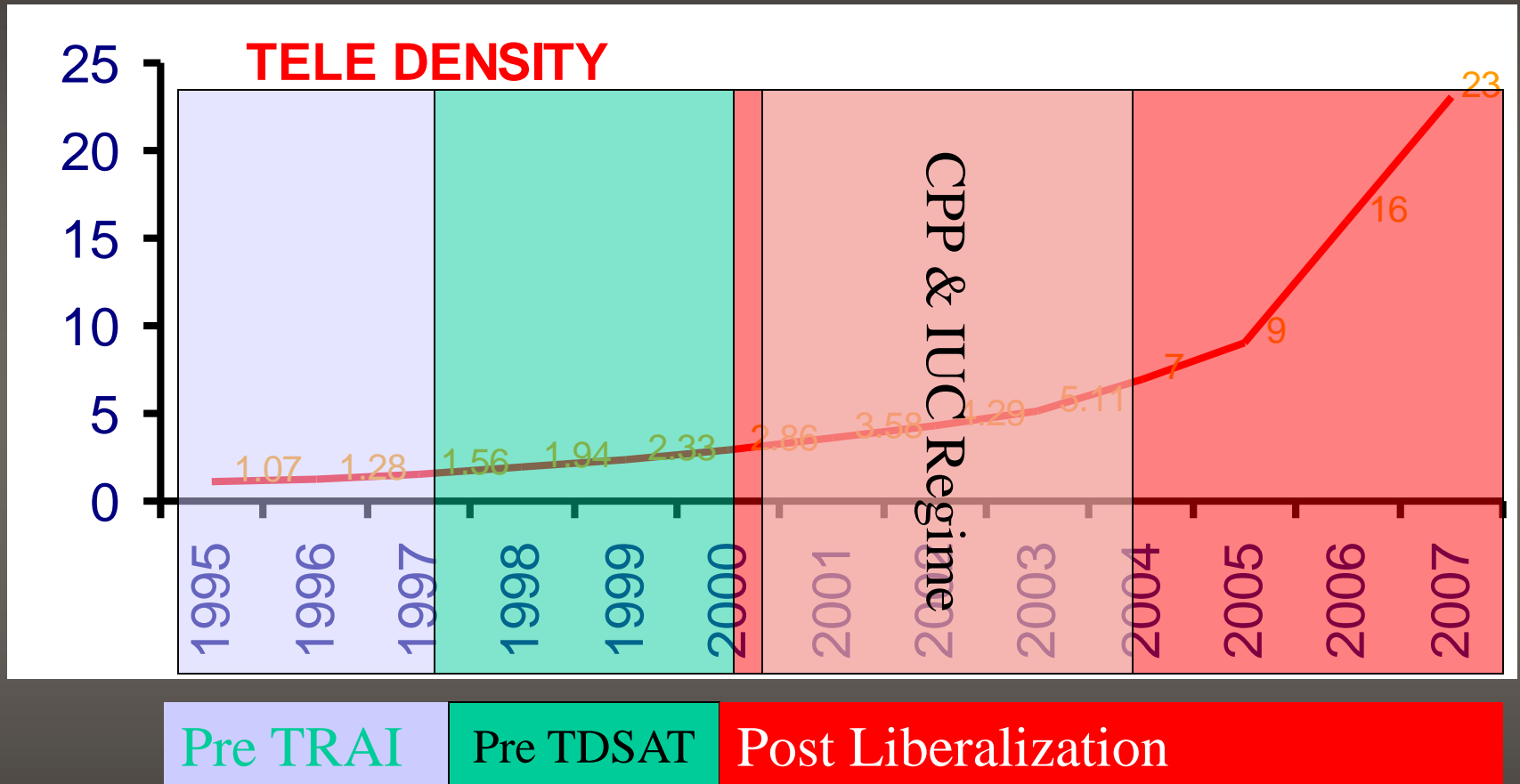
Regulation Vs Growth



Regulation Vs Growth



Regulation Vs Growth



TRAI ACT 1997

Salient Features

- Enacted under Act of Parliament on 28 March 1997
- Chairman and not less than two Members but not exceeding six members
- Need and timing of new services
- License conditions
- Interconnect Issues
- Monitor Quality of Service
- Tariff
- Dispute resolutions

TRAI (Amendment) 2000 Ordinance

Salient Features

- Chairman and not more than two whole time and not more than two part time
- Functions redefined and expanded
- Dispute settlement given to TDSAT
- Amendment quite extensive
- Qualifications for Chairman was also redefined

Four/Five Functions

- ❖ Policy Making
- ❖ Licensing
- ❖ Regulation
- ❖ Operations

Traditionally all over the world these functions were rolled into one department, including in India. In India these were in DOT.

With Liberalization another functions has been added i.e. Dispute Resolution

Important Policies and Acts

- National Telecom Policy 1994
- TRAI Act 1997
- National Telecom Policy 1999
- TRAI Amendment 2000

Regulations by TRAI

Year	97	98	99	00	01	02	03	04	05	06	07	08	Total
No	-	-	5	1	5	3	10	8	11	14	11	1	69

Consultation Papers by TRAI

Year	97	98	99	00	01	02	03	04	05	06	07	08	Total
No	3	2	8	7	7	4	10	18	12	23	22	11	127

Important Regulations

- Interconnection (Charges and Revenue Sharing)
- Interconnection Usage Charges
- Quality of Services (QoS)
- Tariff Regulation
- Regulation on Unsolicited Commercial communication
- Regulations on Broadcasting and Cable services
- Consumer protection and redressal of Grievances
- Consumer Education and Protection

Important Consultation Papers

- **Calling Party Pays (CPP)**
- **QoS**
- **Numbering Plan**
- **IUC**
- **Introduction of Net Telephony**
- **Domestic Long Distance Communication**
- **Next Generation Network (NGN)**
- **Broadcasting and Distribution of TV Channels**
- **Billing Issues**
- **Transition from IPv4 to IPv6**
- **Licensing issues related to DTH**
- **Resale of IPLC**
- **ADC**
- **HITS**
- **IPTV**

Process of Issuing Regulation

- Receive Request from DOT/Govt or Suo Motto
- Trigger the Consultation Process
- Have in-house discussion
- Prepare the draft
- Get the requisite approval
- Issue Regulation

Seven Future Regulatory Challenges

1. Adaptability in Regulation:

Now technology changes faster than laws

Slow adaptability → Medium Pace → Quick adaptability

2. Infrastructure sharing

No Sharing → Passive → Active → Airtime → Dynamic Allocation of Spectrum

3. Services

Voice Centric → Data Centric → Multiplay Centric

4. Regulation

National → Regional → Harmonisation

Seven Future Regulatory Challenges

5. Licencing

Technology Rigid
Licencing → Universal → Delicensing → No

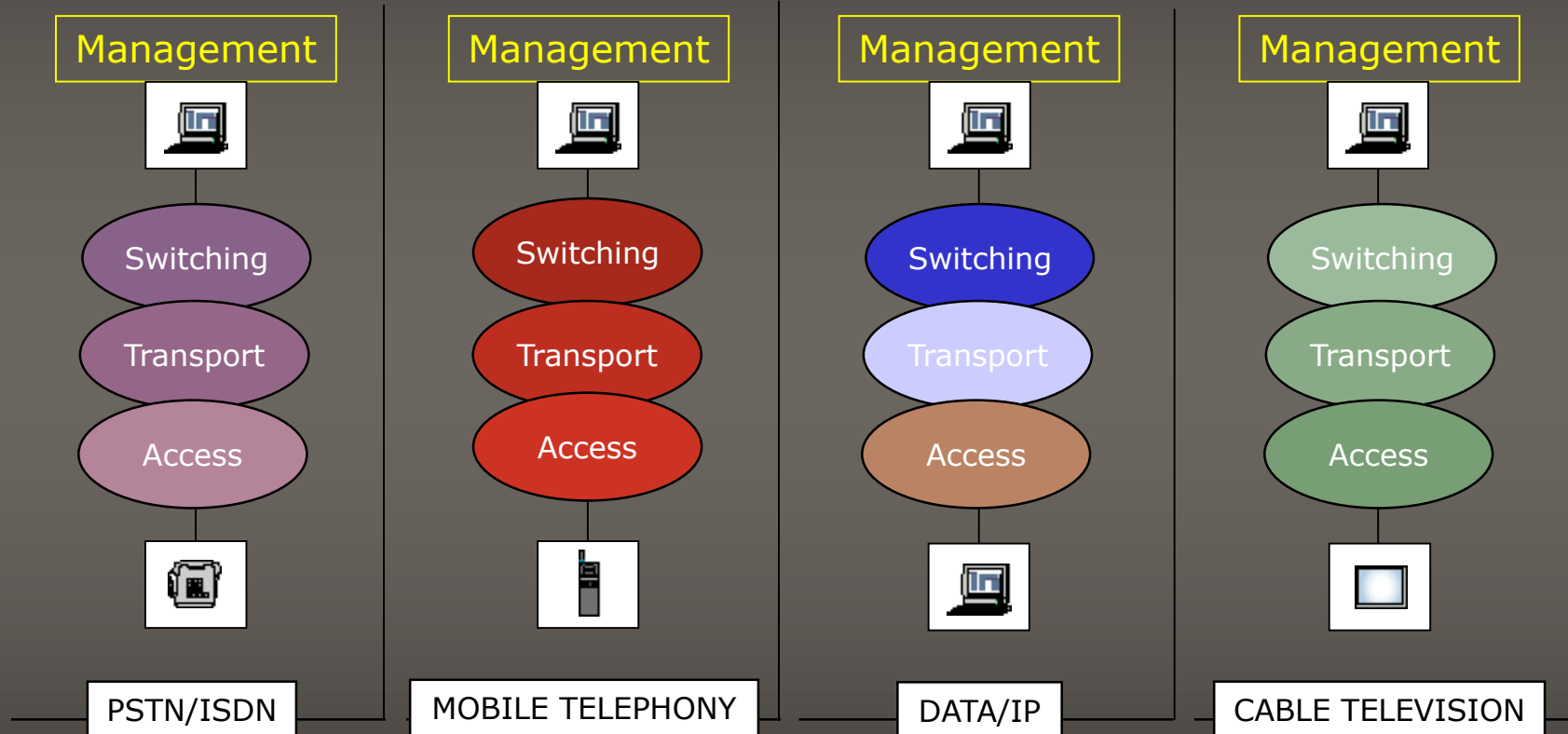
6. Tarriff

Fixing → Ceiling → Forbearance → User preferred

7. Spectrum

Technology → Services → Harmonisation

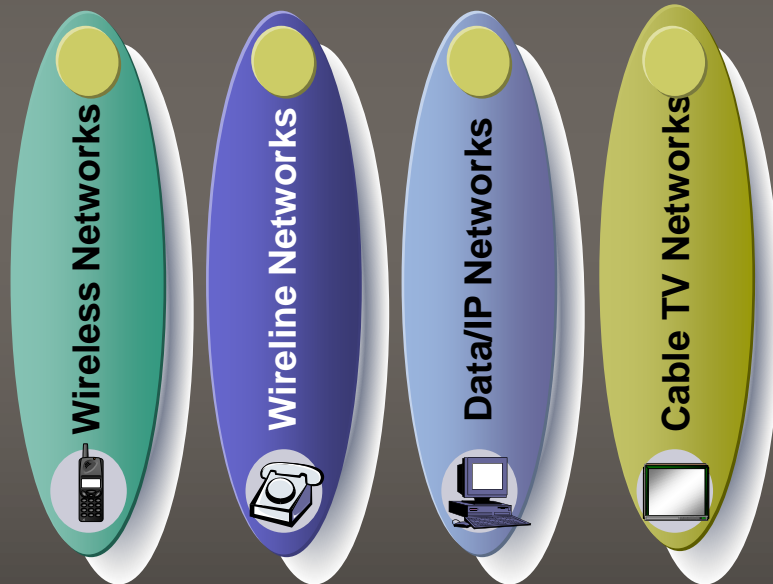
Today's Network Infrastructures



Vertical Integration to Horizontal Integration

Current

Vertical Integration of network and services

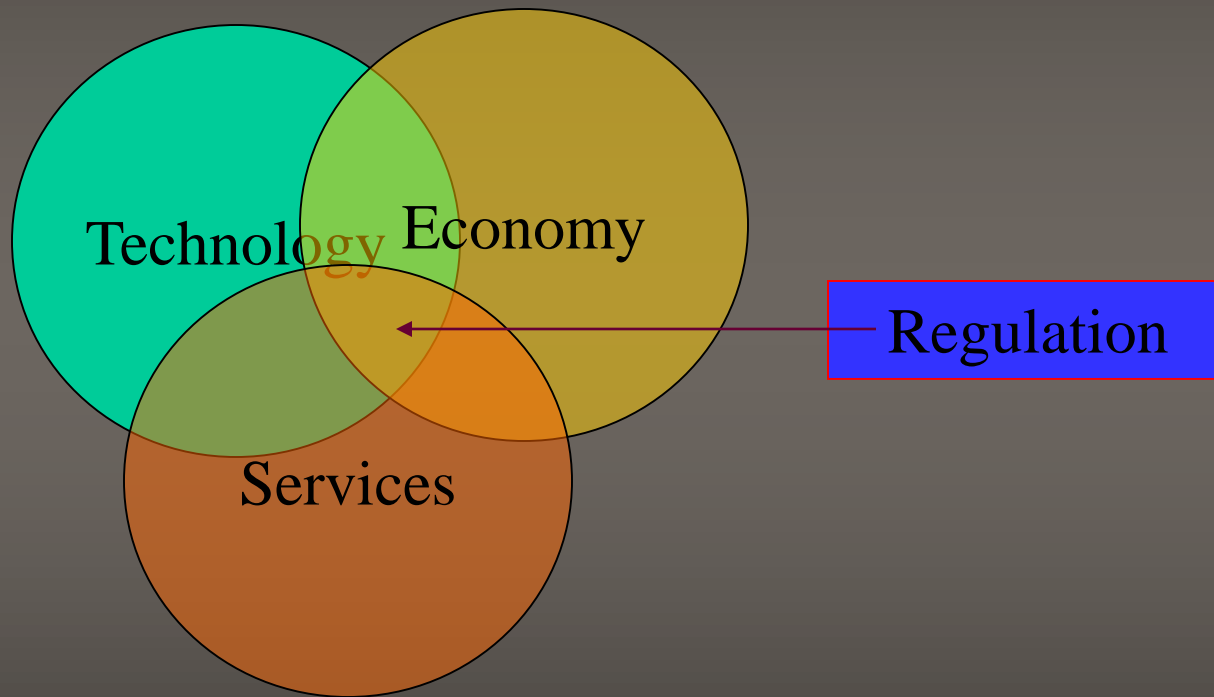


Evolving

Horizontal Integration of network and services



Convergence of Regulation



Seven Future Regulatory Challenges

1. Adaptability in Regulation:

Now technology changes faster than laws

Slow adaptability → Medium Pace → Quick adaptability

2. Infrastructure sharing

No Sharing → Passive → Active → Airtime → Dynamic Allocation of Spectrum

3. Services

Voice Centric → Data Centric → Multiplay Centric

4. Regulation

National → Regional → Harmonisation

Seven Future Regulatory Challenges

5. Licencing

Technology Rigid
Licencing → Universal → Delicensing → No

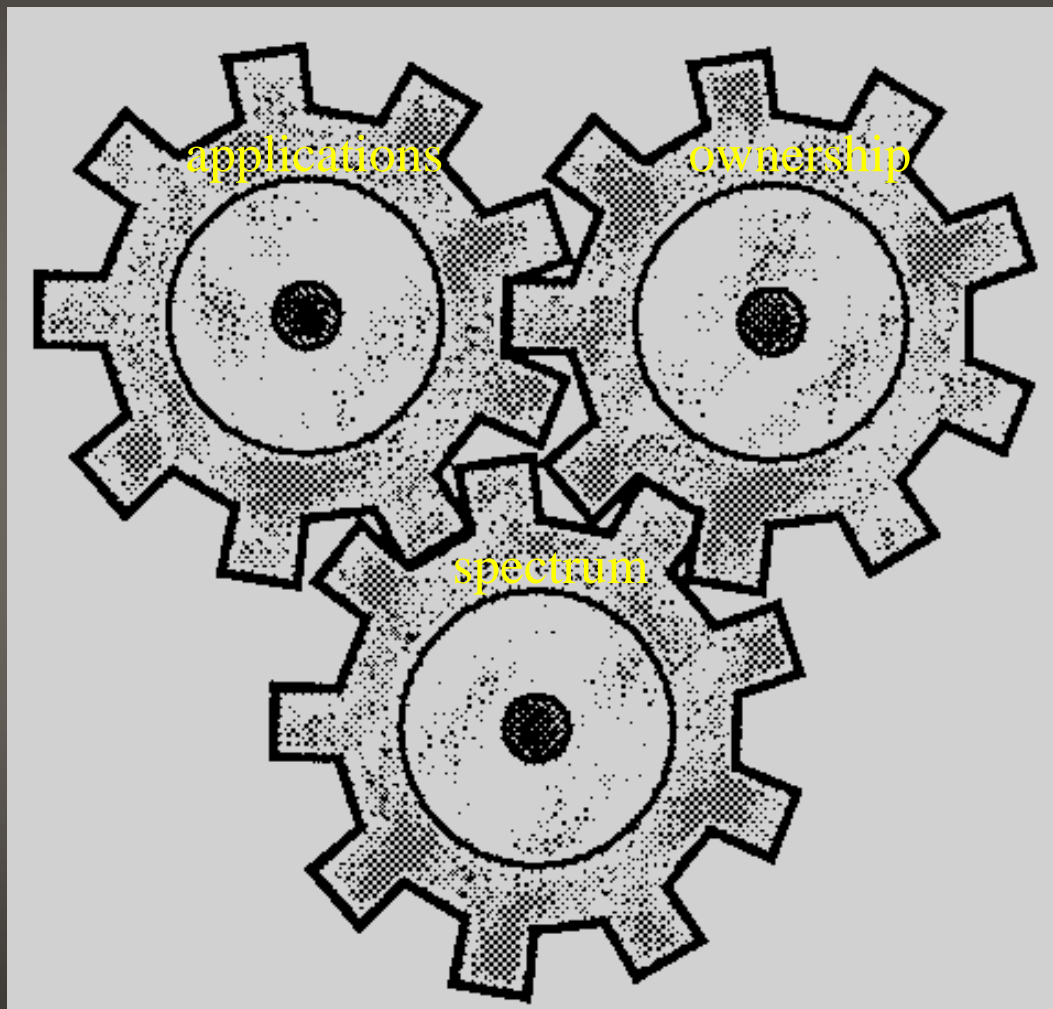
6. Tarriff

Fixing → Ceiling → Forbearance → User preferred

7. Spectrum

Technology → Services → Harmonisation

Spectrum Inflexibility



Harmonisation of Vs. Liberalisation

homogenous
network
(GSM)

simplicity

Heterogeneous
Network
(Wi-Fi Bluetooth)

complexity

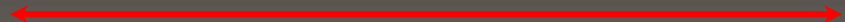
harmonisation

liberalisation



Convergence of Devices & Technologies

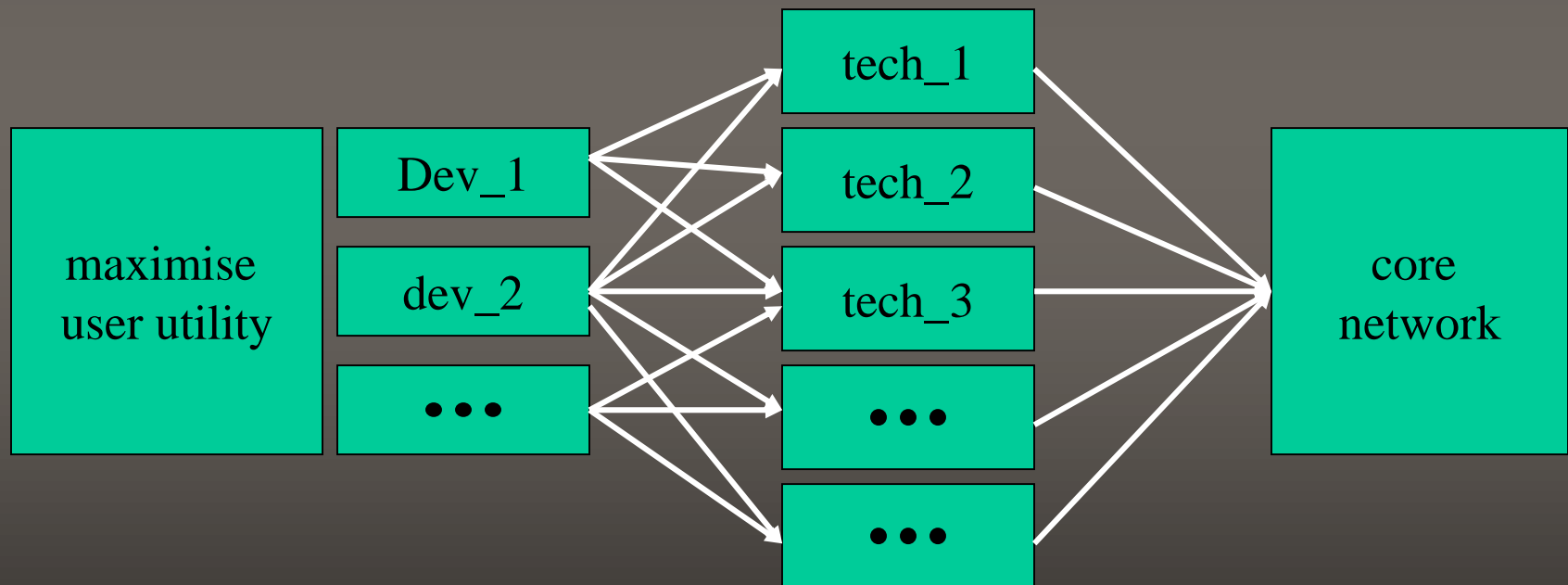
Converged connectivity



users' utility

device

access technology



Intelligent Devices



scan the environment

measure power density levels

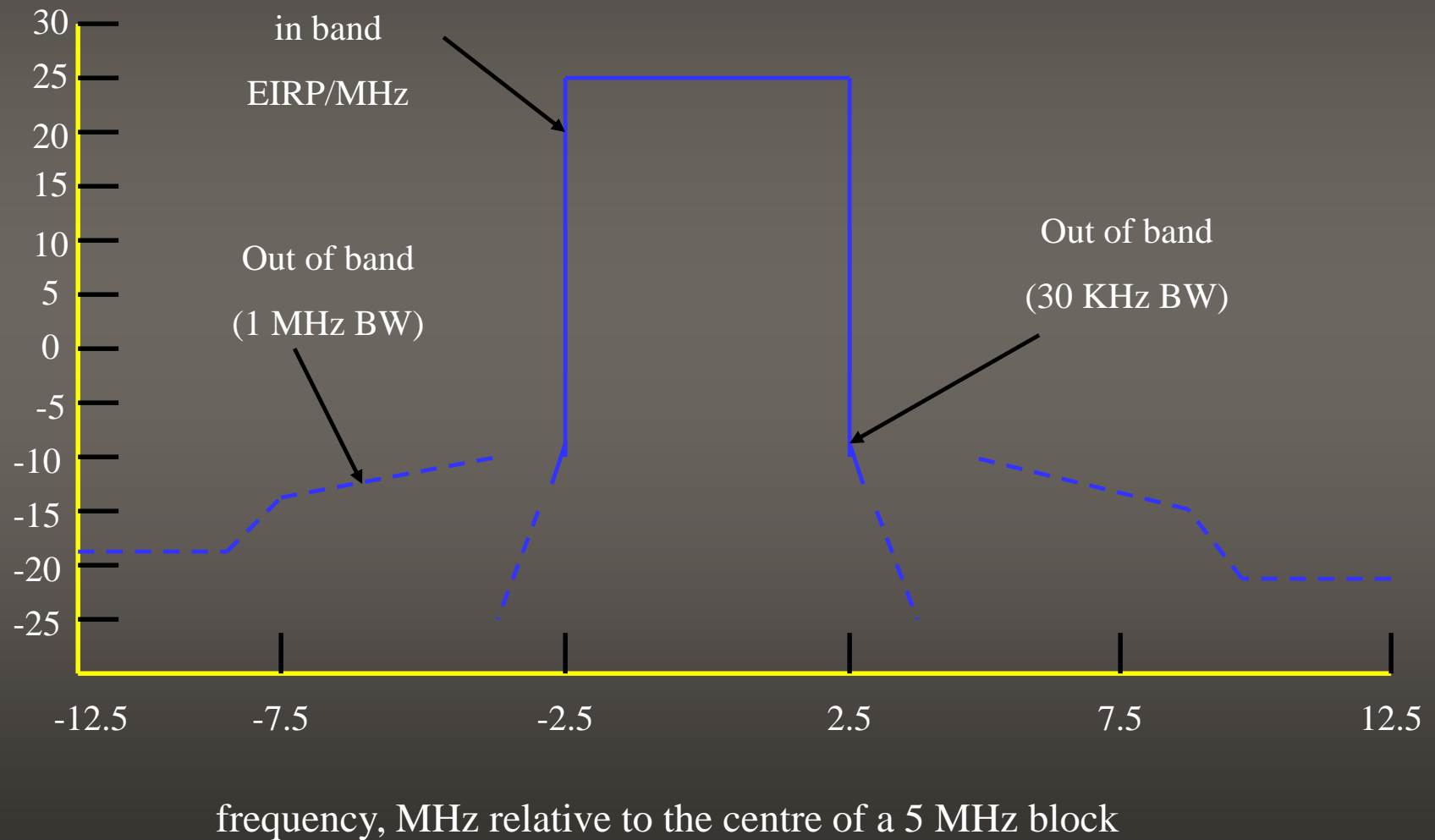
decide on access technology

decide on transmit power

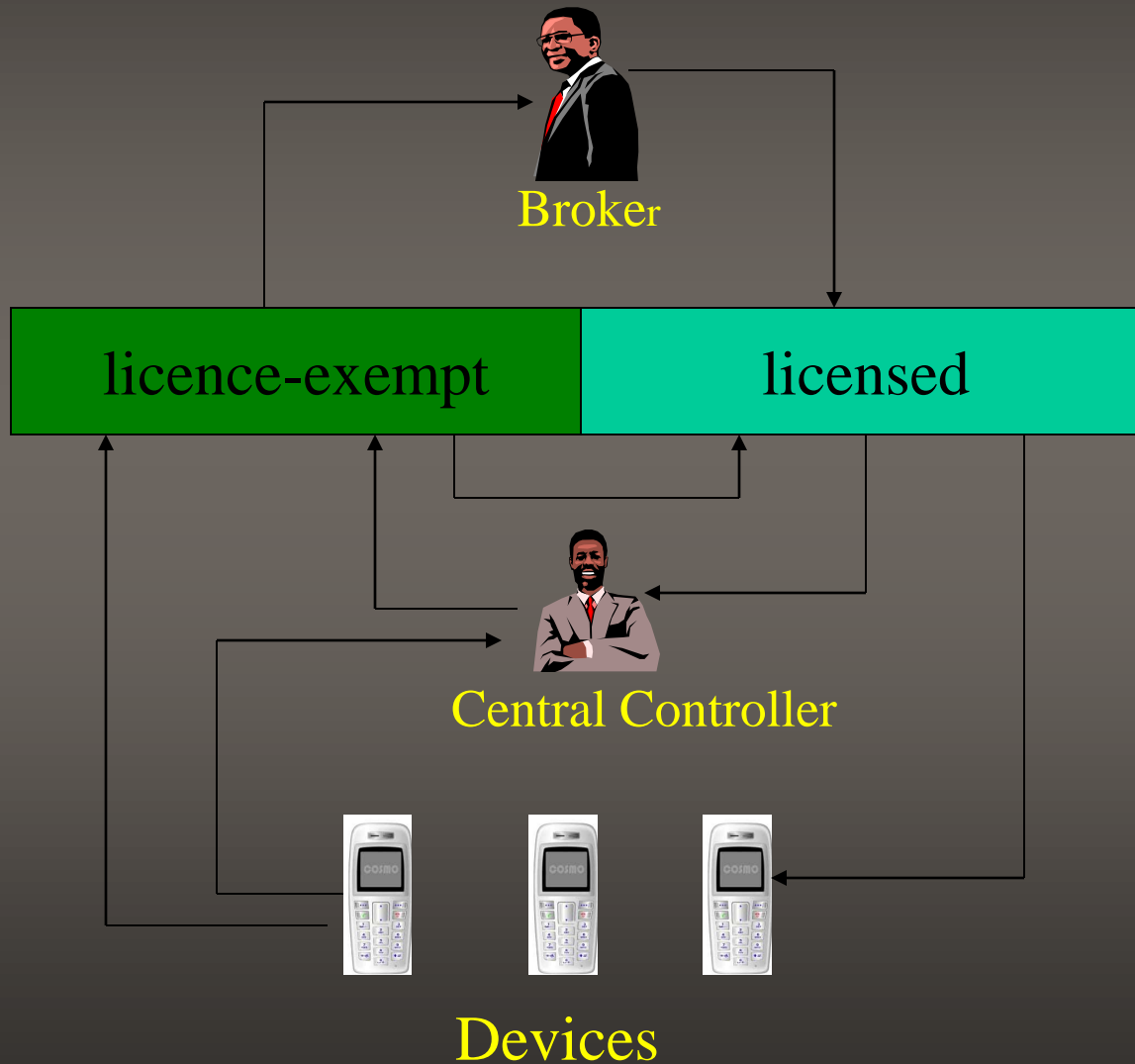
decide on rate/modulation

antennas – MIMO, etc

Spectrum Masks



Spectrum Trading



Seven Future Regulatory Challenges

1. Adaptability in Regulation:

Now technology changes faster than laws

Slow adaptability → Medium Pace → Quick adaptability

2. Infrastructure sharing

No Sharing → Passive → Active → Airtime → Dynamic Allocation of Spectrum

3. Services

Voice Centric → Data Centric → Multiplay Centric

4. Regulation

National → Regional → Harmonisation

Seven Future Regulatory Challenges

5. Licencing

Technology Rigid
Licencing → Universal → Delicensing → No

6. Tarriff

Fixing → Ceiling → Forbearance → User preferred

7. Spectrum

Technology → Services → Harmonisation

Thank You