

SOLM305: Telecommunications Law

Attendance code:

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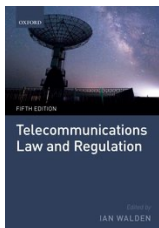
Introductory remarks

- Enormous economic sector & growing rapidly.....
- Regulated activity
 - Regulator
 - Contracts
- Authorisation to use, build & supply
 - Spectrum, networks, services & equipment
 - Conditions of provision
- European Union & international legal regimes
 - International Telecommunications Union and the World Trade Organisation

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Module outline

1. Technologies, Markets and Services
2. Policy, Law and Regulation
3. Authorization and Licensing
4. Imposing Additional Obligations
5. Access and Interconnection
6. **Study Week**
7. Universal Service and Consumer Protection
8. Competition Law: *ex post* Interventions
9. Building International Networks
10. International Telecommunications Union
11. WTO, GATS and the Basic Agreement



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Legal regimes

- European Union law
 - Directive 2018/1972: European Electronic Communications Code ('EECC')
- UK
 - Communications Act 2003, as amended
 - The Electronic Communications and Wireless Telegraphy (Amendment) (European Electronic Communications Code and EU Exit) Regulations 2020
 - Telecommunications (Security) Act 2021
 - Wireless Telegraphy Act 2006
 - Retained EU law
 - e.g. Open Internet Access Regulations 2016 (No. 607)
- International public law
 - WTO GATS & the 'Reference Paper'
- Your jurisdiction.....

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Technologies, Markets & Services

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Introductory Remarks

- Legal and regulatory terminology
 - European Electronic Communications Code (Directive 2018/1972), Art. 2
- Transmission medium
 - access networks & core networks
 - Cloudification of telecoms
 - communication circuits
- Transmissions
 - signalling
 - content (from voice calls to broadcast)
 - communication attributes ('traffic data')

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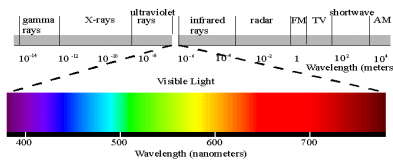
Transmission Medium

- | | |
|--|---|
| <p><i>Access Network</i></p> <ul style="list-style-type: none"> • Fixed or mobile • Wire(line) <ul style="list-style-type: none"> – metallic, e.g. copper ‘twisted pair’, coaxial (CATV), electricity wires (‘power line’ technology) – optical fibre, i.e. glass, ‘fibre to the curb’ (FTTC, FTTH) • Wireless <ul style="list-style-type: none"> – radio <ul style="list-style-type: none"> • e.g. GSM, GPRS, WiFi, WiMax, Bluetooth – satellite <ul style="list-style-type: none"> • e.g. Iridium, Starlink | <p><i>Core/Transport Networks</i></p> <ul style="list-style-type: none"> • Primarily fixed <ul style="list-style-type: none"> – e.g. ‘backhaul’ circuits from base stations • Wire <ul style="list-style-type: none"> – Glass (silica), i.e. optical fibres – submarine cables • Wireless <ul style="list-style-type: none"> – e.g. microwave (‘faking wires’), satellite |
|--|---|

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Electromagnetic Spectrum

- Terrestrial & satellite systems
 - radio (1000 kHz), microwave (6 GHz)
 - ‘white space’ bandwidth
- Scarce resource
 - spectrum management
 - prevent harmful radio frequency interference
 - realise value



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Communication Circuits

- From circuit-switched to packet-switched networks
 - dedicated physical connection, frequency & timeslot
 - UK PSTN switch-off on 31 January 2027
 - virtual connections: e.g., IP (packets)
- Software & integrated circuits
 - From switches to routers (e.g. Cisco): Direct traffic within, and between, networks
 - Intelligent devices (e.g. smart phones) & networks (e.g. Cloud)
- Databases
 - Home location registers (mobile), ‘presence’ (IM), translation (non-geographic), domain name systems (IP conveyance)
- Standards & protocols
 - Standards-making bodies
 - de jure (e.g. ITU, ETSI) and de facto (e.g. IETF, 3GPP)


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Why regulate?

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Communications Policy

- Economic interests
 - Competitive pricing & service innovation
 - Industrial policy
- Social interests
 - Universal service
 - Consumer protection
 - Privacy
- Public interests
 - Critical national infrastructure
 - Including law enforcement access
 - National champions, e.g. state-owned incumbents
 - Public property, i.e. spectrum & land



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Economic outcomes

- Competition law: Incumbents, natural monopolies & dominance
 - *ex ante*: **EECC**: Operators with 'Significant market power' & **DMA**: 'gatekeepers'
 - *ex post*: Vodafone/Three merger: Competition and Markets Authority found that the merger would negatively impact consumers and MVNOs (13 Sept. 2024)
- Impacts downstream
 - OTT services
 - Net neutrality (Regulation 2015/2120): Art. 3(3): "Providers of internet access services shall treat all traffic equally..."
- Industrial policy
 - Infrastructure investment
 - Funding 'last mile' network build
 - Ex-Commissioner Thierry Breton: Internet connectivity tax
 - Facilitating multi-cloud sourcing
 - Interoperability to prevent vendor lock-in & achieve cloud sovereignty

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Social objectives

- Overcoming social and economic exclusion
 - Universal service: access & affordability
- Address imbalances of power
 - Consumer protection
- Protecting individual rights
 - Privacy (Directive 02/58/EC)
 - Service provider-subscriber/user; communicating parties; subscriber-user & user-state
 - ‘Net neutrality’ (Regulation 2015/2120)
 - Art. 3(1): “End-users shall have the right to access and distribute information and content, use and provide applications and services, and use terminal equipment of their choice...”
- Environmental protection
 - Building networks and sharing facilities
- Health & safety
 - Emergency services
 - e.g. BT fined £17.5m for 999 call-handling failures (July 2024)

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Public interests

- As critical national infrastructure
 - Security obligations
 - Telecommunications (Security) Act 2021 & NIS 2 (Directive 2022/2555)
 - Lawful intercept capability: *Colt Technology Services SpA & ors v Ministero della Giustizia & ors* (C-339/21) 16 March 2023
- As property
 - Public (spectrum, numbers)
 - Private (land) assets
 - ‘Code Powers’
- As sovereignty
 - Country-of-destination
 - “The Commission remains of the view that a genuine single market...will require a single EU regulator responsible for interpreting and implementing a harmonised legal framework.”

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*Regulate what?
Regulatory boundaries*

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Services

- Services: A technical or functional approach?
- Prior to EECC:
 - “a service normally provided for remuneration which consists wholly or mainly in the conveyance of signals on electronic communications networks”
 - *UPC Nederland BV v Gemeente Hilversum* (C-518/11), 7 November 2013
 - *Skype Communications v IBPT* (C-142/18), 6 June 2019
 - *Google v Bundesrepublik Deutschland* (C-193/18), 13 June 2019
- Post EECC:
 - ‘internet access service’
 - ‘interpersonal communication services’
 - ‘services consisting wholly or mainly in the conveyance of signals such as transmission services used for the provision of machine-to-machine services and for broadcasting’

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- Internet access service
 - Regulation 2015/2120 re: ‘net neutrality’
 - ‘connectivity to virtually all end points of the internet’
- Interpersonal communication services
 - ‘interpersonal and interactive’
 - ‘between a finite...number of natural persons, which is determined by the sender’
 - unless ‘a minor and purely ancillary service’
 - Interpreted narrowly and from an objective end-user’s perspective
 - number-based (unless an identifier) & number independent
- ‘services consisting wholly or mainly in the conveyance of signals.....’
 - “the correct approach.... is not ultimately quantitative, but one based on a **qualitative assessment** of which elements are “core” and which are “ancillary”

Sky UK Ltd v Ofcom [2023] CAT 70, 15 Nov. 2023



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Supply Chains

- Control and ownership
 - Communications Act 2003, s. 32(4)(b)
 - “under the direction or control of another person”
- Build or buy?
 - Components/facilities
 - ‘dark fibre’, numbers, transmission towers
 - Capacity
 - ‘leased circuits’, wavelengths, mobile virtual networks (MVNOs), e.g. Virgin
 - ‘IRUs’ (Indefeasible Rights of Use)



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Provision

- Public and private networks
 - From supplier ('provision') or customer perspective?
 - e.g. 'virtual private network' (VPN)
 - Public electronic communication networks & services (PECN, PECS)
 - 'made available to the public' on standard terms & tariffs
 - differential regulatory obligations
 - Bespoke or tailored services
 - Resellers & incorporating 'public' components in private service packages
 - Self-provision?
 - Nuvem (Google), Marea (Facebook, Microsoft & AWS)

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Devices

- At the edge of the network
 - Network Termination Point: "the physical point at which an end-user is provided with *access to a public communications network*"
 - Modems and radio paths
- Terminal equipment, customer premises equipment (CPE)
 - Directive 14/53/EU: 'essential requirements'
 - 'Type Approval' process
- End user
 - Subscriber and user



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Regulate how?

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EU regulatory instruments

Hard law:

- Directives
 - Commission: Art. 106
 - Commission Directive 2002/77/EC of 16 September 2002 on competition in the markets for electronic communications networks and services
 - Council and Parliament: Art. 114
 - European Electronic Communications Code (Directive 2018/1972)(EECC)
 - Commission Implementing Regulations, e.g. 2019/2243 re: contract summary template
 - Commission Delegated Regulations, e.g. 2023/444 re: access to emergency services
- Regulations
 - EU 2015/2120 on 'open internet access' & roaming
- Decisions
 - e.g. Decision 2017/899 'on the use of the 470-790 frequency band'
 - Binding on those to whom it is addressed

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EU regulatory instruments

Soft Law:

- Commission recommendations & guidance
 - e.g. Recommendation 2020/2245 'on relevant product and service markets within the electronic communications sector susceptible to *ex ante* regulation'
 - e.g. 'Guidelines on State aid for broadband networks' (2023/C 36/1)
 - 'utmost account' (but not binding!)
 - C-28/15, *Koninklijke KPN BV v ACM*, 15 September 2016, at para. 41: "national courts are bound to take them into consideration"

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Court of Justice

- Non-implementation (art. 258): *Commission v Member State*
 - *Luxembourg* (1999), *Italy*, (2000), *France*, *Portugal* (2001)
- Administrative review (art. 263)
 - *Italy v Commission* (1985), *France v Commission* (1990)
- Preliminary rulings (art. 267)
 - *Autorità per le Garanzie nelle Comunicazioni v Telecom Italia SpA* (C-273/23), 19 September 2024
- Individual appeals
 - Competition decisions
 - *max.mobil Telekommunikation Service v Commission* (2002)
 - *French Republic v Commission* (July 2015)

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National Regulatory Authorities

- Independent
 - From market participants
 - *Thierry Tranchant and Téléphone Store SARL* [1995] ECR I-3911
 - From government (as owners)
 - *C-424/07 Commission v Germany* (3 December 2009)
 - Resource issues
 - *C-240/15, AGCOM v ISTAT* (28 July 2016)
 - *C-242/15, Garai v Administración del Estado* (19 October 2016)
- As a competition authority
 - Directorate-General Competition
- NRA Co-ordination
 - Body of European Regulators for Electronic Communications (BEREC)
 - Regulation 2018/1971



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Regulatory tools

- Authorisation & licensing
- Behavioral controls
 - Supply-side: Regulating prices & costs
 - e.g. regulating wholesale (interconnection) and retail prices (roaming)
 - Demand side
 - e.g. number portability
- Structural controls
 - Functional and structural separation
- Oversight & enforcement powers
 - Information requests
 - Financial penalties

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Accountability

- To the executive
 - Minister of Communications
- To the legislature
 - Reports to parliament
- To industry
 - ‘Administrative charges’ (EECC, Art. 16)
 - “Where there is a difference between the total sum of the charges and the administrative costs, appropriate adjustments shall be made.”
- To the judiciary
 - Rights of appeal
 - On the merits (facts & law)
 - Judicial review (law): defining the margins of discretionary powers

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Cost-based regulation

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Introductory remarks

- Imposing additional obligations (Week 4)
 - Price controls
 - Alternative behavioural & structural measures
- Regulating prices & costs
 - At wholesale (competition) or retail (consumer) level
 - Interconnection and roaming prices
 - Tariff pre-approvals & filings
 - Obligation to price on a ‘cost-orientated’ basis
 - e.g. EECC, recital 195: “in light of the ability and incentives of terminating operators to raise prices substantially above cost, cost orientation is considered to be the most appropriate intervention to address this concern over the medium term.”

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Principles of economic regulation

- Prevention of possible abuse of monopoly power
- Economic regulation should not distort business decisions
- Costs of regulation should be limited to that which is essential
- Regulation should try to ‘mimic’ the likely operation of a competitive market

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Economic regulation

- Price (P) = Costs (C) + Rate of Return/Profit (R)
 - Rate of return
 - Normal return on capital invested
 - Used in US, but leads to allocative & productive inefficiency
 - Price
 - At a retail and/or wholesale level
 - Costs
 - “costs are... Relevant [not only] when setting a ‘strictly cost-based price’, but are likely to be a factor to a greater or lesser extent in most cases where the dispute between the parties concerns price.”

BT v Ofcom [2009] CAT 1

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Market Features

- High fixed/capital (sunk) costs
 - network build
- Low variable/operational costs
 - Marginal/incremental costs, i.e. cost of adding extra customers
 - economies of density, of scope, of scale
- Cost structures
 - geographic
 - congestion pricing
 - two-part tariffs: access + carriage
- ‘Network externalities’
 - “the value of the network is greater for an individual the more people are connected to it”

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Historic tariff levels

- Cross-subsidization
 - line rental/call charge
 - international/national
- “Rebalancing”
 - ‘cost-orientated’ tariffs – can go up as well as down!
 - e.g. BT Leased Lines with Ethernet: CPI – 13.25% (2016)
 - political aspect
 - in the short term, business benefit, not general population
 - protecting the incumbent, e.g. UK: ‘access deficit charge’
 - rate of cost reductions

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Wholesale price control

- Competitors as customers
 - interconnection as much as 50% of new entrants costs
 - e.g. over 50% of BT broadband lines are operated by competitors
- Regulatory solution
 - ‘cost-orientated’ obligations
- Regulatory problem: Asymmetry of information
 - Structural separation
 - e.g. BT’s Openreach
 - Behavioural obligations
 - Accounting Separation
 - Regulatory initiatives
 - Modeling costs and/or benchmarking

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Cost allocation

- Allocation of direct and common costs
 - Direct service costs
 - Service specific, e.g. SMS server or
 - Shared (joint) costs, e.g. Home Location Register
 - Network common costs
 - e.g. backhaul circuits & trenches
 - Non-network common costs
 - Un-attributable to a service of product
 - e.g. BT’s pension deficit (2014)
 - Allocation method: Equal Proportionate Mark-Up
 - Disallowed costs
 - e.g. BT’s attribution of costs in connection with EE purchase (2015)

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Concluding remarks

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