



**FROM COMPLIANCE TO COMPETITIVE ADVANTAGE:**  
**An Advisory Report on Deutsche Telekom's AI Risk Management**  
**Strategy Under the EU AI Act and UK Regulatory Framework**

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## **Executive Summary**

This report outlines the strategic implications of artificial intelligence development for Deutsche Telekom AG's senior management, focusing on risk management, data governance, regulatory compliance, and customer trust. The case study examines operations in both the European Union and the United Kingdom that have taken different regulatory paths for AI and are still developing, to determine what Deutsche Telekom should address most urgently with regard to governance.

The EU AI Act (Regulation 2024/1689), which became effective in August 2024, is identified as the primary external risk through a PESTLE analysis, Porter's Five Forces, Porter's Diamond, and a structured risk register. The governance culture that Deutsche Telekom developed, such as its 2018 AI Guidelines and EU AI Pact commitment, offers a more advantageous starting point than most of its European competitors. Still, now the law does not allow voluntary commitments.

It is proposed that a three-horizon implementation plan of thirty-six months with an estimated cost of EUR 6.1 million recommends: a structured EU AI Act compliance audit and AI literacy programme in short term; an independent AI Governance Council, third-party audit and client-facing EU AI Compliance Toolkit in medium term; and a Responsible Telecoms AI Certification programme with sovereign European AI compute investment in long term. The most sustainable competitive differentiation that Deutsche Telekom can possess in the European market, which can be implemented strictly and transparently, is regulatory compliance.

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## **1. Introduction**

Artificial intelligence is now a defining strategic variable in the telecommunications sector worldwide. According to GSMA Intelligence (2024), the use of AI by telecoms operators is gaining significant traction in network optimisation, customer service automation, and fraud detection. However, the transfer of this strategic intent into operational deployment is still lopsided. According to McKinsey and Company (2023), the annual economic value of generative AI is estimated to be in the trillions of dollars worldwide, and telecoms is one of the industries most vulnerable to the opportunities this functionality offers, as well as the governance risks it will impose.

The report is prepared on behalf of RFD Global as part of an internship application. It aims to inform Deutsche Telekom's top management about the strategic impact of AI expansion, highlighting risks, data management, ethical implementation, and the preservation of customer confidence. The discussion will focus on Deutsche Telekom's activities in the European Union and the United Kingdom. According to Haenlein and Kaplan (2019), the development of an AI strategy is best done within the context of the wider external environment, which is why the analytical frameworks implemented in this report, such as PESTLE analysis, Porter's Five Forces, and Porter's Diamond, are all based on this principle.

Deutsche Telekom AG is the largest telecommunications firm in Europe by revenue. It operates in Germany, the rest of Europe, and the United States under the T-Mobile US brand (Deutsche Telekom AG, 2023c). According to the 2024 Annual Report, it was stated that in 2023 an AI Competence Centre was established, and they are members of the Global Telco AI Alliance and have a strategic goal of using AI to cut indirect costs by three to five percentage points by 2027 (Deutsche Telekom AG, 2024). Wirtz, Weyerer, and Geyer (2019) note that AI use in complex infrastructure settings requires especially strong governance frameworks that can be directly applied to a company whose networks serve as the foundation of vital communications across several European markets.

## **2. Main Findings**

### **2.1 The EU AI Act and Post-Brexit Divergence: Regulatory Pressure on European Telecoms**

As of 1 August 2024, when the EU AI Act (Regulation 2024/1689) came into effect, becoming the first regulatory act on AI in the world (and containing a legally binding part), the political and regulatory landscape of Deutsche Telekom was altered fundamentally (European Union, 2024). The Act offers a risk-based classification framework which categorizes the AI systems into four risks with the highest risk-related requirements of conformability, transparency, and human oversight to high-risk systems. Deutsche Telekom would fall into the high-risk category for AI applications in T-Systems enterprise business services, including critical network infrastructure, biometric identification, and automated customer decisioning.

The risk-based architecture of the Act is theoretically well-founded, according to Veale and Zuiderveen Borgesius (2021), but in practice obscured by the lack of clarity in its definitions, particularly on the question of when an AI system is considered a high-risk system, and the distribution of responsibilities along supply chains. This lack of clarity has a commercial impact on Deutsche Telekom, which not only creates AI systems, but also implements third-party AI solutions. The ENISA Multilayer Framework of AI Cybersecurity (ENISA, 2023) is a sector-specific guideline that telecoms operators should follow as an operational minimum, in addition to the legal requirements of the Act.

The United Kingdom has upheld a principles-based, sector-regulator approach to govern AI after Brexit, and has opposed the introduction of a binding AI Act equivalent (UK Government, 2023). Kim and Park (2025) describe this as viewing trust as infrastructure that emphasises flexibility rather than prescriptive compliance. In the case of T-Systems UK, this poses a dual-standardised scenario: EU AI Acts apply to DT's European operations. In contrast, the UK operation is regulated by ICO guidelines and current sector regulation. According to Setianingrum (2025), this difference is expected to grow as the Act's provisions become increasingly effective, with full implementation scheduled for 2026 and 2027, making compliance more complex for cross-border operators such as Deutsche Telekom.

Rasouli and Binaian (2024) suggest that AI has become a tool for national and regional authorities, and that regulatory frameworks are increasingly aimed at advancing strategic goals rather than consumer protection. For Deutsche Telekom, which has to enter the EU and US regulatory environments, the threat of being trapped between conflicting

regulatory pressures is a tangible strategic issue that the implementation plan will specifically address.

## **2.2 European Telecoms Economics and the Commercial Stakes of AI Investment**

The average growth and structural margin pressure are attributes of the economic environment that Deutsche Telekom considers when pursuing its AI strategy. A PwC report (2025) indicates that AI-driven productivity gains will be greatest in sectors highly reliant on technology, and telecoms falls mid-way through the list, automating networks, adopting predictive maintenance, and using AI-assisted customer care. This is reflected in Deutsche Telekom's strategy: the company expects its revenue to increase by approximately 4 per cent annually until 2027, and AI- and data-driven efficiency will help it lower costs (Deutsche Telekom AG, 2024).

Manyika et al. (2017) demonstrate that organisations that are most successful in reaping benefits of automation through productivity gains have high process integration and invest in workforce capabilities before automation. This reasoning is evident in Deutsche Telekom Skill Academies, which retrain over 2,000 of its employees in AI and software engineering every year (Deutsche Telekom AG, 2023a). A valuable warning, provided by Acemoglu and Restrepo (2018), is that the introduction of AI-based automation may trigger the emergence of economic gains unevenly distributed, and social adjustment costs to be paid to people who lose their jobs is a reputational and social licence risk that Deutsche Telekom must take the initiative to mitigate, particularly due to the well-developed culture of trade unions in Germany. The OECD (2021) notes that AI investments in regulated domains have proven rather resilient, and the B2B revenues of Deutsche Telekom under T-Systems are well positioned to benefit if regulatory credentials render DT's offering an advantage over US and cheaper options.

## **2.3 Consumer Confidence, Customer Trust and Social Licence**

The social implications of AI adoption are particularly acute in Deutsche Telekom's homeland. The level of privacy and sensitivity towards surveillance in Germany is high, and this directly influences expectations for how AI can be used in telecommunications. According to the Edelman Trust Barometer (2024), the public in European markets is losing confidence in technology businesses that implement AI, and this is even more concerning given telecoms operators' privileged access to communications metadata. One of the greatest threats discussed by Acemoglu (2021) is that automated systems that are not carefully supervised by humans may discriminate against those with lower incomes and less digital literacy, as is the case with Deutsche Telekom, which provides

communications infrastructure to a major part of the population. Mittelstadt et al. (2016) reiterate that algorithmic ethics cannot be solved through technical solutions; rather, it requires constant oversight, and Obermeyer et al. (2019) provide empirical evidence that social disparities may fail algorithmic systems without preconceived intent.

### **2.3.1 Maintaining Customer Trust: Communication Beyond Compliance**

Customer trust does not just come with regulatory compliance; it involves an active communication strategy that provides customers with a clear sense of the impact of AI on them. The nine AI guidelines of Deutsche Telekom guarantee the company's transparency, stating that a customer will never be unaware of communicating with an AI system or of how data is processed (Deutsche Telekom AG, 2018). In reality, this pledge will need to be operationalised with easily understandable AI statements visible in digital customer-facing touchpoints, rather than being obscured in the terms and conditions.

According to Taddeo and Floridi (2018), AI as a force for good can only be effective when the people affected by AI systems can meaningfully access information about its operation. In the case of Deutsche Telekom, this implies creating customer-facing AI transparency summaries of its key products that describe, in plain language, what AI is doing, what data it uses, and how customers can seek redress if they believe an AI decision has impacted them unfairly. According to Jobin, Ienca and Vayena (2019), the stated AI ethics commitments of organisations and their actual communication to affected individuals are always at a distance, a gap that the upcoming AI accountability reports of Deutsche Telekom should be tailored to address. Section 3.2, the medium-term implementation plan, entails the creation of a customer transparency dashboard as one of the main deliverables, along with the AI Governance Council and third-party audit.

## **2.4 5G-AI Convergence, Network Automation and T-Systems Digital Portfolio**

The technological landscape that Deutsche Telekom must grapple with is defined by the rapid convergence of 5G network infrastructure and artificial intelligence. Attaran (2021) illustrates that 5 G's low-latency features provide the technical basis for AI applications that were not practical in the past, such as real-time network slicing, autonomous fault detection, and predictive traffic management. As demonstrated by Bikkasani and Yerabolu (2024), the utilisation of machine learning in the process of resource allocation and in the creation of dynamically adjusting network slices can significantly enhance the efficiency of the network, which can be directly linked to the Technology and Innovation strategy of Deutsche Telekom (Deutsche Telekom AG, 2023a).

Bommasani (2021) defines foundation models as a qualitative leap in AI capability, enabling a single large model to be tailored to a wide variety of downstream tasks at comparatively low marginal cost. The formation of a Global Telco AI Alliance by Deutsche Telekom with SK Telecom, e& and Softbank in 2023 can be seen as an indication of a strategy to develop telco-specific AI models rather than relying on general-purpose alternatives offered by US providers (Deutsche Telekom AG, 2024). Rai (2020) shows that explainability is a key requirement in regulated settings, and telco-specific models structured with explainability at their core are more likely to meet EU AI Act requirements. LeCun, Bengio and Hinton (2015) define the essential role of deep learning in the potential of present-day AI, whereas Makridakis (2017) states that organisations that do not establish governance infrastructure and technological potential will face reputational and commercial downfall. As Duan et al. (2019) note, AI systems in an enterprise environment require constant monitoring, which the implementation plan addresses by mandating a third-party audit.

Table 1Porter's Five Forces Deutsche Telekom Competitive Environment—source: Author's own construction.

| Force                  | Assessment for Deutsche Telekom                                                                                                                                     | Intensity | Strategic Implication                                                                                      |
|------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|------------------------------------------------------------------------------------------------------------|
| Competitive Rivalry    | Intense pan-European rivalry with Vodafone, Orange and Telefonica; T-Mobile US competes against AT&T and Verizon; pricing pressure constrains AI investment budgets | Very High | Differentiate through AI-driven service quality, network reliability and EU AI Act compliance credentials. |
| Threat of New Entrants | High spectrum licensing and infrastructure costs create substantial barriers; over-the-top service providers continue disrupting traditional revenues.              | Medium    | Leverage physical network ownership as a durable moat; monetise 5G via B2B AI services through T-Systems   |

|                                      |                                                                                                                                            |             |                                                                                                                     |
|--------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------------------------------------------------------------------------------------------------------------------|
| <b>Bargaining Power of Buyers</b>    | Enterprise and public-sector clients increasingly demand AI transparency and evidence of GDPR compliance as preconditions for procurement. | High        | Embed governance credentials into tender responses; position EU AI Act compliance as a buyer-valued differentiator. |
| <b>Bargaining Power of Suppliers</b> | Dependency on Ericsson, Nokia and Huawei for network hardware; GPU scarcity from NVIDIA limits AI training capacity across the industry    | Medium-High | Diversify supplier relationships; pursue sovereign EU AI compute via Digital Decade AI Factories programme.         |
| <b>Threat of Substitutes</b>         | AWS, Microsoft Azure and Google Cloud offer AI-enabled communications tools that directly compete with T-Systems B2B portfolio             | High        | Position T-Systems as the GDPR-native, EU AI Act-ready alternative to US hyperscale platforms                       |

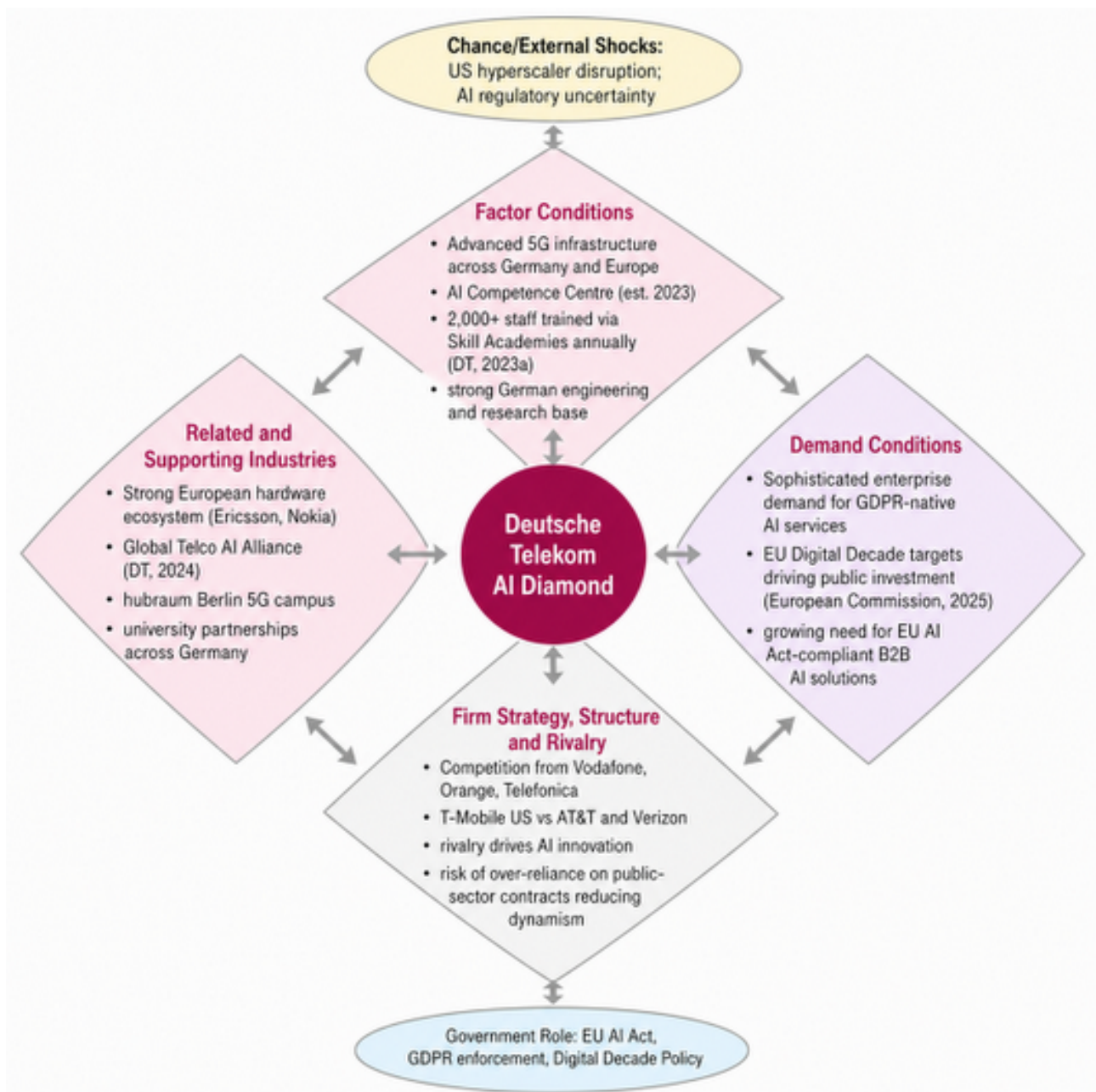


Figure 1 Porter's Diamond - Deutsche Telekom Regional Competitiveness in the EU Telecoms AI Market. Source: Author's own construction

## 2.5 Legal Obligations Under the EU AI Act: Risk Classification and GDPR Enforcement

The EU AI Act and the General Data Protection Regulation shape Deutsche Telekom's legal environment. The AI Act will oblige Deutsche Telekom to test high-risk AI systems for conformity before deployment, maintain technical documentation, ensure human control, and enrol qualified systems in a publicly accessible EU database (European Union, 2024). Deutsche Telekom (2025) confirms that the initial audit of the prohibited

systems has already been completed, and a plausible baseline must be further developed to support continuous high-risk management of systems and conformity documentation. Wachter, Mittelstadt, and Floridi (2017) note a subnote relevant to both models: the legal question of whether a right to explanation of automated decisions is limited to a specific area is a contested issue that presents an interpretative challenge for companies that use AI to make consequential customer decisions. Goodman and Flaxman (2017) argue that the EU approach to algorithmic accountability is flawed. Nevertheless, it is the best, consistent model to date for regulating AI at scale, and Deutsche Telekom's approach to legal regulation is allegedly based on EU standards as its universal standard. In the United Kingdom, the ICO (2024) has published guidance applying UK GDPR principles to AI systems, which directly applies to installations by T-Systems UK. The implementation ambience, however, is much more casual than that of the Bundesdatenschutzbeauftragte in Germany. Zarsky (2016) also states that one of the structural issues behind the two regimes is the temperament of complex AI systems, rendering them less vulnerable to audit and accountability processes that underpin legal systems. In his contribution, Binns (2018) suggests adopting the concept of fairness theory in political philosophy to create more principled legal norms, an approach reflected in the design of the EU AI Act and which should also be reflected in Deutsche Telekom's governance structures. Scherer (2016) points out that current legal frameworks were not intended to address the transparency and scale of algorithmic systems and argues that regulation should go beyond compliance to include proactive risk detection.

## **2.6 Green Network Strategy and the AI Energy Challenge**

The ecological aspect of AI regulation is relevant to Deutsche Telekom, as the energy consumption of 5G network operations and AI model development is intensive. According to the State of the Digital Decade 2025 report published by the European Commission, energy-efficient connectivity infrastructure is among the priorities to address the 2030 digital transformation goals of the EU, where 5G and AI are both contributing to the data centre and network energy consumption rate in a way that has to be actively managed (European Commission, 2025). Deutsche Telekom's innovation strategy encompasses sustainability pledges alongside its AI build-out (Deutsche Telekom AG, 2023b).

On the one hand, Taddeo and Floridi (2018) suggest that the only way AI can become a real force for social good is by ensuring that transparency and accountability are part and parcel of the design and deployment of such tools, and that environmental responsibility is included in this. The Digital Ethics framework of Deutsche Telekom promises that the

company will be a responsible developer of technology focused on human needs (Deutsche Telekom AG, 2022), and the environmental impact of AI infrastructure is perceived as a facet of this responsibility. Regulatory frameworks in digitally advanced economies are increasingly obliging organisations to report on the sustainability of their technology investments alongside financial performance, a trend that Deutsche Telekom's environmental reporting will have to capture as EU sustainability disclosure requirements become stricter.

Table 2: Deutsche Telekom PESTLE Analysis Summary. Source: Author's own construction.

| Factor               | Key Issues for Deutsche Telekom (2024–2026)                                                                                                                   | Risk Level  | Primary Source                                              |
|----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|-------------------------------------------------------------|
| <b>Political</b>     | EU AI Act in force August 2024; UK principles-based approach; divergent compliance demands across DT's cross-border operations                                | High        | European Union, 2024; UK Government, 2023; Kim & Park, 2025 |
| <b>Economic</b>      | European telecoms margin pressure; DT targets 4% annual revenue growth to 2027 via AI efficiency; US-EU macroeconomic divergence shapes investment conditions | Medium-High | PwC, 2025; Manyika et al., 2017; DT, 2024                   |
| <b>Social</b>        | Declining consumer trust in AI across European markets, heightened German surveillance sensitivity, and workforce concerns around automation.                 | Medium      | Edelman, 2024; Acemoglu, 2021; DT AG, 2018                  |
| <b>Technological</b> | 5G-AI convergence reshaping network operations; foundation model disruption from US hyperscalers; DT Skill Academies retraining 2,000+ staff annually         | High        | Attaran, 2021; Bommasani, 2021; DT, 2023a                   |
| <b>Legal</b>         | EU AI Act mandatory risk classification and conformity assessment; German GDPR                                                                                | High        | ENISA, 2023; Wachter et al., 2017; ICO, 2024                |

|                      |                                                                                                                                                                  |        |                                       |
|----------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|---------------------------------------|
|                      | enforcement among the strictest in Europe; UK ICO guidance applies to T-Systems UK                                                                               |        |                                       |
| <b>Environmental</b> | AI training and 5G network operations are increasing energy demand; EU Digital Decade sustainability targets are shaping infrastructure investment requirements. | Medium | European Commission, 2025; OECD, 2021 |

## 2.7 Algorithmic Accountability, Supply Chain AI Risk and Brand Protection

One common issue across the PESTLE dimensions is that AI risk at Deutsche Telekom is pervasive, including its supply chain and the AI systems of enterprise customers that use DT infrastructure. Brundage et al. (2018) identify malicious use of AI as one of the underappreciated risk categories. The very capabilities that make AI commercially valuable also enable AI systems to be exploited, especially for a telecommunications operator whose networks transmit vital communications across the nation. ENISA (2023) offers a three-tier cybersecurity framework that directly considers this dimension of the supply chain, and the DT compliance plan is obliged to consider ENISA's guidance as an obligatory minimum for operational principles.

To give Deutsche Telekom a normative point of reference for its governance processes, Floridi et al. (2018) suggest an ethical AI governance framework based on four principles: beneficence, non-maleficence, autonomy, and justice. The nine AI guidelines of Deutsche Telekom are structured similarly and require the company to be responsible, transparent, secure, and human-controlled (Deutsche Telekom AG, 2018). According to Loucks et al. (2019), firms that invest in AI governance early have a credibility advantage that late movers cannot easily match, making DT's governance heritage a true competitive advantage. NIST (2023) offers a systematic approach to risk identification through its AI Risk Management Framework, which supplements the more abstract requirements of the EU AI Act, particularly for T-Systems UK operations not directly covered by it.

*Table 3: Deutsche Telekom AI Risk Register - Key Exposures and Mitigations*

| Risk | Description | Likelihood | Impact | Mitigation |
|------|-------------|------------|--------|------------|
|------|-------------|------------|--------|------------|

|                                        |                                                                                                                                          |               |               |                                                                                                                                      |
|----------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------|---------------|---------------|--------------------------------------------------------------------------------------------------------------------------------------|
| <b>EU AI Act Non-Compliance</b>        | Failure to classify and manage high-risk AI systems correctly, exposing DT to fines up to EUR 30 million or 6% of global annual turnover | <b>High</b>   | <b>Severe</b> | Full AI inventory audit; Privacy and Security Assessment extended to cover AI Act obligations; dedicated compliance team.            |
| <b>Algorithmic Bias in Customer AI</b> | Biased outputs in customer service or network AI are eroding consumer trust and triggering GDPR enforcement in Germany                   | <b>Medium</b> | <b>High</b>   | Pre-deployment fairness audits; transparent model documentation; customer-facing AI declaration aligned with DT's nine AI guidelines |
| <b>Cross-Border Data Governance</b>    | Inconsistent GDPR application across Germany, the UK and the US, creating compliance gaps and litigation exposure for T-Systems          | <b>Medium</b> | <b>Severe</b> | Unified data governance architecture; DPO oversight for AI; privacy-by-design embedded across development lifecycle                  |
| <b>Hyperscaler Substitution</b>        | Enterprise clients shifting B2B workloads to AWS or Azure, reducing T-Systems revenue and weakening DT's AI market position.             | <b>High</b>   | <b>High</b>   | Position T-Systems as GDPR-native, EU AI Act-compliant European alternative; develop DT AI governance certification for clients      |

|                         |           |                                                                                                 |                |               |                                                                                                                                        |
|-------------------------|-----------|-------------------------------------------------------------------------------------------------|----------------|---------------|----------------------------------------------------------------------------------------------------------------------------------------|
| <b>Network Security</b> | <b>AI</b> | Adversarial manipulation of AI-driven network management in critical infrastructure deployments | <b>Low-Med</b> | <b>Severe</b> | Adopt the ENISA AI Multilayer Cybersecurity Framework; conduct annual third-party penetration testing on AI-managed network functions. |
|-------------------------|-----------|-------------------------------------------------------------------------------------------------|----------------|---------------|----------------------------------------------------------------------------------------------------------------------------------------|

### 3. Implementation Plan

The three-horizon implementation plan below converts the analytical results from Section 2 into actionable, costed recommendations. This plan is designed on the notion that compliance with regulations, when done strictly and transparently, would create a competitive advantage rather than be a cost of doing business. Such reasoning is especially effective in the European B2B market, where governance attributes are becoming more decisive in procurement processes (Calo, 2017; McKinsey and Company, 2023).

#### 3.1 Immediate Compliance Priorities (0–6 Months): EU AI Act Gap Analysis

The first and foremost thing to do is to expand and institutionalise the audit of the AI system inventory, initiated upon the entry into force of the EU AI Act. According to Deutsche Telekom (2025), the first prohibited-systems audit has been successfully performed. The second stage needs to systematically classify all AI systems against the Act's high-risk criteria in Annex III, i.e., critical infrastructure, employment, and essential private services. The Chief Compliance Officer should lead this audit, and coordinate with Legal and Technology teams. It must also be based on the Privacy and Security Assessment, which has been operational since 2020, and include certain EU obligations under the AI Act. The approximate cost of EUR 150,000-220,000 reflects the size of DT's AI portfolio across a range of European jurisdictions.

At the same time, Deutsche Telekom would need to incorporate an essential AI ethics and compliance review gate into any new product development cycle. Making this assessment part of the product development process, rather than a post-development obstacle, is more effective and is more likely to reveal governance problems at an early enough stage that the issue can be resolved without requiring a major overhaul (ENISA, 2023).

The third urgent consideration is the implementation of a formal AI Literacy Programme for client-facing and engineering employees of Deutsche Telekom. Jobin, Ienca and

Vayena (2019) state that the discrepancy between proclaimed AI ethics and actual practice is one of the most longstanding governance issues in AI-deploying organisations, and the EU AI Act, in this regard, explicitly mandates AI literacy among staff working with high-risk systems. The existing Skill Academies system of Deutsche Telekom (Deutsche Telekom AG, 2023a) provides the best implementation vehicle, since the programme not only fulfils the EU AI Act provisions but also the nine guidelines at DT, including efficient escalation mechanisms. This EUR 300,000 investment, on one occasion, assists in establishing a culture of compliance that reduces the chances of inadvertent governance failure.

### **3.2 Building Ethical Infrastructure (6–18 Months): Transparency and UK Subsidiary Alignment**

The medium-term strategy aims at creating external accountability structures that will enable Deutsche Telekom to be distinguished in terms of AI governance credentials as opposed to less transparent rivals. The primary suggestion of this step is the creation of a DT AI Governance Council of external scholars, lawyers, and civil society representatives, which has true authority to review decisions related to deployments. Floridi et al. (2018) state that the most credible governance structures are those that are transparent and accountable in their activities. This Council provides a significant independent voice, and a significant differentiator in the public sector procurement process at an estimated cost of EUR 120,000 annually.

The most important verification mechanism suggested in this plan is to commission an independent third-party AI audit that corresponds to the levels of risks as provided in the EU AI Act, as well as to the NIST AI Risk Management Framework 1.0 (NIST, 2023). Wachter, Mittelstadt, and Floridi (2017) note that statements of governance that were never verified are not credible to advanced regulators and enterprise purchasers. This audit (c. EUR 200,000 to EUR 280,000 per year) turns the claims to compliance into self-assessment to independently verified findings and is published on the corporate website of Deutsche Telekom. In parallel, a customer transparency dashboard with customer-friendly, plain-language AI summaries that align with DT's (Deutsche Telekom AG, 2018) transparency commitment should be created, directly supporting the objectives of customer trust identified in Section 2.3.1.

The medium-term recommendation with the highest commercial potential is the creation of a T-Systems EU AI Compliance Toolkit, a consumer-facing model that allows enterprise buyers to document and demonstrate their own compliance with the EU AI Act through

the use of AI services at DT. Taddeo and Floridi (2018) point out that AI is most useful when the people who are the subject of AI systems can meaningfully access information about how they work; a compliance toolkit that operationalises this requirement by ensuring transparency downstream to clients is one way of commercialising this principle. The estimated price of this toolkit is EUR 400,000 to EUR 600,000. It will create a new source of B2B revenue, and T-Systems will be the provider of choice for European enterprise clients who are only beginning to negotiate compliance with the AI Act. Cath (2018) argues that voluntary governance mechanisms, implemented with actual rigour, can be a de facto demonstration of regulation compliance and create a history that would put DT in a vantage position as enforcement intensifies.

### **3.3 Long-Term Regulatory Leadership (18–36 Months): First-Mover Advantage and Architecture**

The governance infrastructure built over the first eighteen months should, in the long term, be leveraged to generate a competitive advantage that is hard for less mature competitors to imitate. The most commercially notable long-term recommendation is the launch of a DT Responsible Telecoms AI Certification programme, a formal accreditation framework of enterprise clients implementing AI using DT infrastructure in accordance with the standards of the EU AI Act. Calo (2017) contends that the most appropriate organisations to influence AI regulatory outcomes are those with the longest experience in governing AI at scale. This programme incurs switching costs in client relationships, estimated at EUR 1.0 million to develop and launch. It creates a new revenue stream in the growing EU AI compliance market.

The creation of a cross-border AI data governance architecture a single technical and policy framework that allows the uniform application of GDPR and EU AI Act standards to Germany, UK and US operations and applies the most challenging standard as the internal base is a necessary step towards long-term operational efficiency. According to Goodman and Flaxman (2017), being proactive by implementing the strictest regulatory standard that can serve as an internal design baseline is the most effective long-term compliance strategy compared to jurisdiction-specific systems. This architecture, at an estimated cost of EUR 1.5 million, removes compliance fragmentation.

The most future-oriented suggestion in this plan is to invest in sovereign European AI compute capacity by joining the EU AI Factories programme. This investment, estimated to cost between EUR 2.0 million and EUR 3.0 million, will not only decrease the current dependence of Deutsche Telekom on US hyperscale infrastructure but also meet the goal

of the European Commission (2025) to decrease EU reliance on external AI providers and improve its connections with its institutional stakeholders. Rasouli and Binaian (2024) note that ownership of AI infrastructure is becoming a component of strategic regional power, which places Deutsche Telekom in the nexus of commercial strategy and European digital policy.

Table 4: Deutsche Telekom AI Governance Implementation Plan (0–36 Months)

| Phase                         | Action                                                                                                                                        | Owner                            | Est. Cost (EUR)       | Expected Outcome                                                                                   |
|-------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------|-----------------------|----------------------------------------------------------------------------------------------------|
| <b>Short-Term (0–6 Mo.)</b>   | EU AI Act system inventory and risk classification audit across all DT products and deployments                                               | Chief Compliance Officer + Legal | <b>€150K–€220K</b>    | Baseline compliance map; high-risk AI systems identified and prioritised for conformity assessment |
| <b>Short-Term (0–6 Mo.)</b>   | Extend Privacy and Security Assessment to include EU AI Act obligations; embed an AI ethics review gate in all new product development cycles | DPO + Technology                 | <b>€80K–€120K</b>     | Systematic pre-deployment compliance checkpoint for all AI product launches                        |
| <b>Short-Term (0–6 Mo.)</b>   | Launch AI Literacy Programme covering EU AI Act and DT AI guidelines for 10,000 client-facing and engineering staff                           | L&D + AI Ethics Office           | <b>€300K one-time</b> | Compliant, AI-aware workforce; reduced liability from uninformed AI deployment decisions           |
| <b>Medium-Term (6–18 Mo.)</b> | Establish DT AI Governance Council with external academic, legal and civil society members;                                                   | Board + External Members         | <b>€120K p.a.</b>     | Independent governance credibility; differentiation in public-sector                               |

|                               |                                                                                                                                                |                            |                             |                                                                                                             |
|-------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|-----------------------------|-------------------------------------------------------------------------------------------------------------|
|                               | publish bi-annual AI accountability reports                                                                                                    |                            |                             | procurement processes                                                                                       |
| <b>Medium-Term (6–18 Mo.)</b> | Commission independent third-party AI audit benchmarked against EU AI Act risk tiers and NIST AI RMF 1.0; publish results publicly             | Chief AI Officer + Auditor | <b>€200K–€280K p.a.</b>     | External verification of compliance claims; material differentiation from less transparent competitors      |
| <b>Medium-Term (6–18 Mo.)</b> | Develop T-Systems EU AI Compliance Toolkit client-facing framework, enabling enterprise buyers to document AI Act compliance using DT services | T-Systems + Legal          | <b>€400K–€600K</b>          | New B2B revenue stream; DT positioned as trusted EU AI Act compliance partner for European enterprise       |
| <b>Long-Term (18–36 Mo.)</b>  | Launch DT Responsible Telecoms AI Certification for enterprise clients deploying AI through DT infrastructure in compliance with the EU AI Act | Strategy + Marketing       | <b>€1.0M (dev + launch)</b> | Certification ecosystem; switching costs built into client relationships; governance-based competitive moat |
| <b>Long-Term (18–36 Mo.)</b>  | Build a cross-border AI data governance architecture enabling consistent GDPR and EU AI Act compliance across Germany, the                     | Global Compliance + Eng.   | <b>€1.5M</b>                | Elimination of duplicative compliance systems; seamless multi-jurisdiction operations                       |

|                              |                                                                                                                                                  |                  |                    |                                                                                                                    |
|------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------|------------------|--------------------|--------------------------------------------------------------------------------------------------------------------|
|                              | UK and the US using the highest-standard baseline                                                                                                |                  |                    |                                                                                                                    |
| <b>Long-Term (18–36 Mo.)</b> | Invest in sovereign EU AI compute capacity through the EU AI Factories programme, reducing dependency on US hyperscale for critical AI workloads | CTO + EU Affairs | <b>€2.0M–€3.0M</b> | Reduced supplier dependency; alignment with EU Digital Decade targets; strengthened EU institutional relationships |

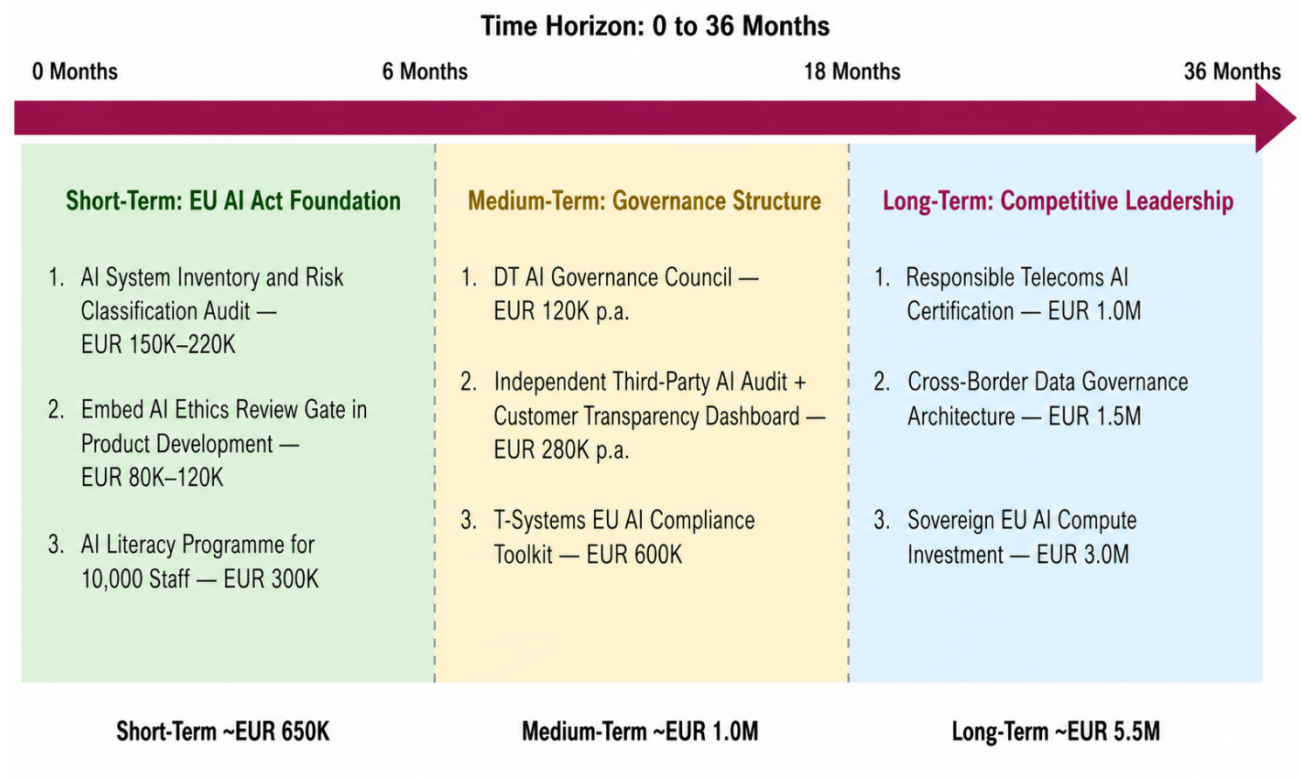


Figure 2: Deutsche Telekom AI Governance Implementation Timeline with Cost Estimates. Source: Author's own construction.:

#### 4. Conclusion

This report has examined the strategic location of Deutsche Telekom in the crossroads of the fast paced AI development and an even more challenging regulatory environment, which is backed by the EU AI Act. The overview indicates that a company is better equipped to navigate through this environment than most European telecoms rivals, with its 2018 AI Guidelines, Privacy and Security Assessment process, and EU AI Pact

commitment, being a source of governance that other companies only just begin to establish. However, the EU AI Act transforms this voluntary leadership into a mandatory minimum, which raises the governance stakes to a great extent.

Based on the analysis of the Five Forces Porter Analysis, Deutsche Telekom will be forced to face intense competitive rivalry not only with its more traditional telecoms competitors but also with technology-based rivalry. The most justifiable strategic reaction is not competing on raw AI ability, where US hyperscalers enjoy significant resource advantages, but to establish itself as the reliable, GDPR-native, EU AI Act-compliant substitute for European enterprise and public-sector customers. This is further supported by Porter's Diamond analysis, which demonstrates that the factor conditions of DT supporting 5G infrastructure, the AI Competence Centre, Skill Academy investment, and the Global Telco AI Alliance provide a solid competitive base in the region. However, it needs to be sustained by the dynamism of the private sector rather than state funding.

The risk register shows that Deutsche Telekom's worst exposures are regulatory non-compliance and cross-border data governance gaps, with the effects of failure including fines of up to 6 per cent of global annual turnover. These are discussed systematically in the plan of implementation in Section 3, starting with the embedding of audit and compliance, through independent governance verification, to competitive leverage and sovereign infrastructure investment. The expansion of the implementation plan to include a special customer transparency dashboard, based on Deutsche Telekom AG's dedication to informing customers about the utilisation of their data in AI systems (Deutsche Telekom AG, 2018), directly addresses the customer trust aspect that underpins long-term brand protection.

Several limitations and assumptions should be explicitly stated. The cost estimates are indicative, meaning they are based on industry benchmarks rather than DT's internal financial data. The analysis makes numerous assumptions of geopolitical stability in the EU and UK over the planning horizon, an assumption that might not be true in light of the rapid pace of AI policy development, the likelihood of additional US-EU trade conflicts, and the possibility of significant changes in the implementing measures to the EU AI Act before all terms are fully operational. It further analyses Germany and the UK and lacks a comprehensive analysis of the implications of T-Mobile US's operations, which operate in a unique and fast-changing federal and state regulatory environment. These flaws notwithstanding, the proposed plan of action in the strategy is quite sound: compliance with the EU AI Act, which is adopted publicly and directly presented to the customers and

the regulators, is the most sustainable source of competitive advantage that the European market can provide to Deutsche Telekom.

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