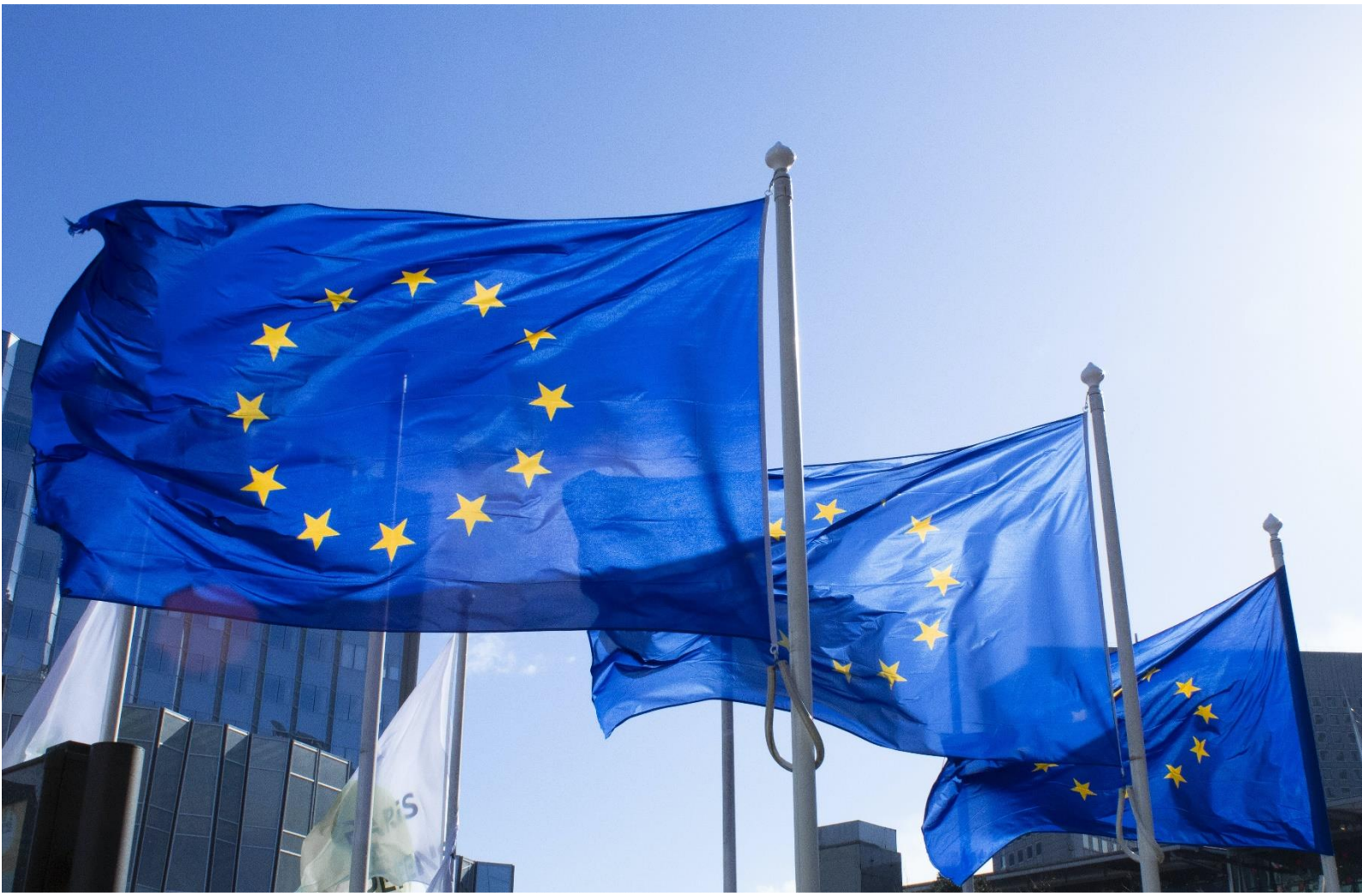
The European Union Artificial Intelligence Act

Uncovering the new AI regulation as well as key impacts on businesses



What is the EU AI Act?

The European Union's proposed Harmonised Rules on Artificial Intelligence (the "EU AI Act") provides a legislative framework for dealing with artificial intelligence ("AI") in the future - with the goal of driving innovation and mitigating risks – that focuses on a human-centred, risk-based approach to the classification of AI systems.

What are the key objectives of the EU AI Act?

Risk Based Approach	•The Act classifies AI systems into four categories based on potential risks, ranging from unacceptable to minimal risks, defining rules for each category.
Transparency and Accountability	•The Act emphasizes transparency by requiring AI systems to be clearly labelled and provides individuals with the right to know when they are interacting with an AI system.
High-Risk AI Systems	•Stricter regulations for AI systems posing high risks, such as critical infrastructure, healthcare, and law enforcement.
Data Quality and Data Governance	•Focus on ensuring high-quality training data and proper data governance practices to minimize biases and errors in AI systems.

What are the implications for businesses?

Business Compliance	•Companies deploying AI in high-risk sectors need to adhere to stringent requirements, leading to increased investment in compliance and safety measures.
Ethical AI Development	•The EU AI Act encourages the development of AI systems that respect human rights, privacy, and ethics, promoting responsible innovation.
Innovation Landscape	•Balancing regulation with innovation will foster trust in AI technologies, potentially attracting more investment and development.
Cross-Border Impact	•The EU AI Act's uniform regulations simplify cross-border deployment of AI systems within the EU, promoting a harmonized approach.

What are the fines for non-compliance?

Infringements can result in monetary fines of **EUR 40M** or **7% of global annual turnover** when violating Art. 5	Infringements can result in monetary fines of **EUR 20M** or **4% of global annual turnover** when violating Art. 10 and 13	Non-compliance of an AI system or model with requirements may result in monetary fines of **EUR 10M** or **2% of global annual turnover**	Supply of incorrect, incomplete or misleading information may result in a monetary fine of **EUR 5M** or **1% of global annual turnover**

When does it come into effect?

The EU AI Act was passed by the European Parliament on 14 June 2023, after being voted through by European Parliamentary Committees in May 2023 . It is currently being negotiated by three EU intuitions, with an outcome expected by the end of 2023. Once negotiations are completed, the regulation will be enacted 20 days after its official publication in the EUR-Lex Journal of the European Union. Once enacted, there will likely be a two-year implementation period before the EU AI Act is enforced. **The EU AI Act is expected to be enacted in Q1 2024 and enforced in 2026**.

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Who are we?

AI & Partners is your dedicated partner in navigating the complexities of the EU AI Act. As a distinguished professional services firm, we specialise in guiding companies subject to the EU AI Act toward seamless compliance with its ethical and legal standards.

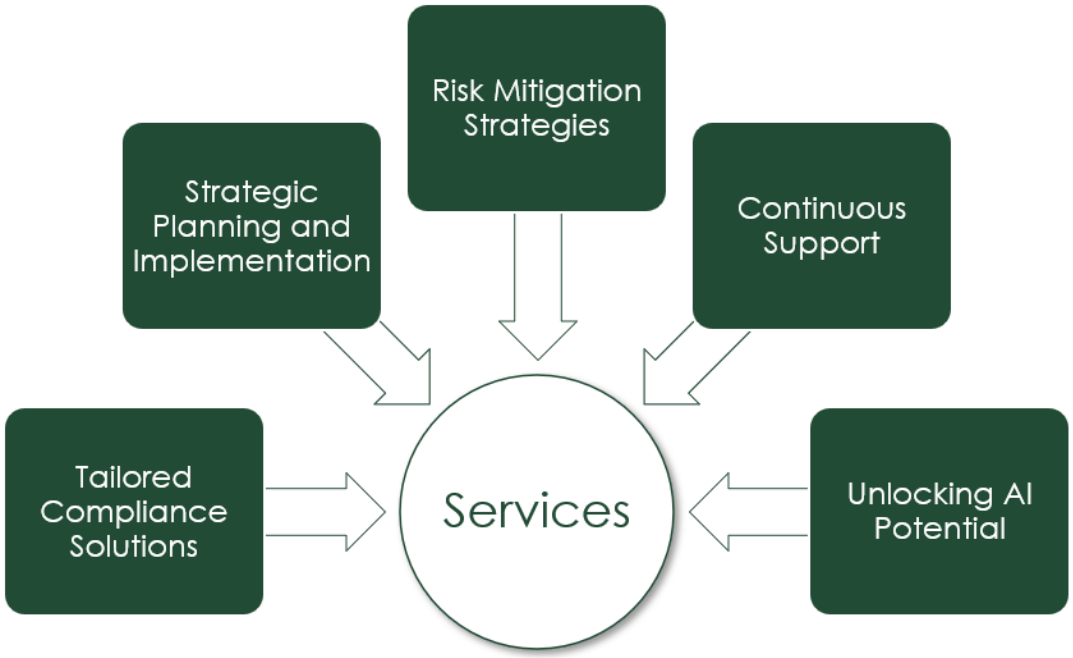
CMS lawyers work across sectors and borders in more than 40 countries worldwide to deliver advice to you wherever you operate. At CMS we are keen to stimulate the AI legal debate and provide guidance to our clients, advising companies large and small to leverage the benefits of new technology whilst limiting the possible legal risks. CMS advises multiple governments, corporations, investors and start-ups in AI. The CMS team includes: PhD and postgraduate degrees in Artificial Intelligence; ex in-house AI coverage lawyers for large multinational tech companies; advisory board member of APPG on AI; and advisors to audit, risk management and other professional services in AI.

Our Mission: *to empower businesses with the knowledge, strategies, and tools they need to integrate AI technologies while upholding ethical integrity and regulatory adherence.*

Who we serve: *our services extend across a diverse range of industries and entities, including pioneering startups, professional services firms, dynamic SMEs, established enterprise – and more!*

What do we do?

AI & Partners and CMS specialise in assisting companies subject to the EU AI Act. Our joint mission is to empower businesses to navigate the intricacies of AI compliance with confidence and excellence.



What three key principles do we focus on?

Security | **Stability** | **Safety**

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What sectors do we focus on?

Knowing the industries in which our clients work is essential when it comes to ensuring EU AI Act regulatory excellence. Our customised industry focuses illustrate our client-focused culture perfectly. We bring together individuals from multiple disciplines and at all levels of experience to focus on a particular business sector. For us, it is about achieving the perfect balance of industry-focused knowledge and technical expertise to meet our clients' needs.

Consumer Products

Hotels & Leisure

Lifesciences

Energy & Utilities

Technology, Media & Communications

Real Estate & Construction

Infrastructure & Projects

Financial Markets

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Consumer Products

Impact

AI has a profound impact on the consumer products sector, revolutionising how products are developed, marketed, distributed, and sold. AI transforms the consumer products sector by enhancing every stage of the product lifecycle, from design and production to marketing and sales. Its ability to leverage data, provide insights, and automate processes empowers companies to create more relevant, efficient, and customer-focused products and experiences.

Sales Forecasting

AI analyses historical sales data, market trends, and external factors to generate accurate sales forecasts. This helps companies anticipate demand and adjust production and inventory levels accordingly.

Consumer Insights

Social media analysis and sentiment tracking through AI enable companies to gain insights into consumer opinions, preferences, and trends, aiding in developing products that resonate with target audiences.

Risks

Managing these risks requires a proactive approach, including careful planning, ethical considerations, robust cybersecurity measures, transparent AI practices, and ongoing monitoring to ensure responsible and beneficial AI integration in the consumer products sector.

Area	Risk	Description	Brand	Investor
Economic	High implementation costs	Integrating AI technologies into consumer product processes requires significant upfront investments in infrastructure, software, and training, potentially straining financial resources.	The integration of AI technologies into consumer product processes requires substantial upfront investments in software, hardware, and workforce training. Brands may need to carefully manage these costs to ensure a positive return on investment.	Brands' AI implementation costs could impact their profitability and financial stability, potentially affecting returns for investors. Investors need to assess how brands manage these costs and their potential impact on long-term growth.
Environmental	Resource intensive AI	Integrating AI technologies into consumer product processes requires significant upfront investments in infrastructure, software, and training, potentially straining financial resources.	Some AI applications demand significant computational power and energy consumption, which could lead to higher operational costs and contribute to environmental concerns. Brands need to balance AI benefits with their environmental impact.	Energy-intensive AI applications might increase operational costs for brands, potentially impacting their financial performance. Investors should evaluate how energy consumption aligns with the brand's sustainability goals.
Geopolitical	Data sovereignty	Integrating AI technologies into consumer product processes requires significant upfront investments in infrastructure, software, and training, potentially straining financial resources.	Reliance on AI technologies that involve cross-border data sharing could raise data privacy and sovereignty issues. Brands must navigate data protection regulations and ensure user information remains secure.	Data privacy and sovereignty concerns could lead to regulatory challenges and impact brand reputation. Investors need to consider how brands handle user data and comply with privacy regulations.
Societal	Algorithmic bias	Biases present in training data can be amplified by AI algorithms, leading to unfair or discriminatory outcomes in product recommendations and services.	AI systems can inherit biases from training data, potentially leading to unfair or discriminatory outcomes in product recommendations, marketing, and customer interactions. Brands must actively address and mitigate algorithmic bias.	Brands that fail to address algorithmic bias risk negative publicity and consumer backlash. Investors should assess how brands manage bias and ensure ethical AI practices.
Technological	Model complexity	Complex AI models might lack transparency and interpretability, making it challenging to understand and address errors or biases in decision-making.	Complex AI models might lack transparency and interpretability, making it challenging for brands to understand errors or biases in decision-making. Ensuring model transparency is crucial to build trust with customers and stakeholders.	Brands using complex AI models might struggle with accountability and transparency in decision-making. Investors should evaluate how well brands communicate and manage the complexity of their AI systems.
Safety	Product malfunctions	AI-powered consumer products could malfunction or produce unexpected outcomes, posing safety risks to users and potentially leading to product recalls.	AI-powered consumer products could malfunction, produce unintended outcomes, or pose safety risks to users. Brands must prioritise rigorous testing and quality control to minimise the likelihood of product malfunctions.	AI-powered products that malfunction or pose safety risks could lead to financial losses, regulatory fines, and reputational damage for brands. Investors need to assess brands' quality control processes and readiness to handle potential malfunctions.

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Infrastructure & Projects

Impact

AI has a transformative impact on the infrastructure and projects sector, revolutionising the way projects are planned, executed, monitored, and maintained. AI transforms the infrastructure and projects sector by enhancing planning accuracy, risk management, project execution, and maintenance practices. Its ability to process and analyse vast amounts of data leads to more efficient, cost-effective, and sustainable project outcomes.

Project planning & design

AI transforms the infrastructure and projects sector by enhancing planning accuracy, risk management, project execution, and maintenance practices. Its ability to process and analyse vast amounts of data leads to lower cost and more sustainable project outcomes.

Risk management

AI predicts potential risks and challenges by analysing vast datasets, helping project managers proactively identify and mitigate issues that could impact project timelines and budgets.

Risks

To manage these risks, the infrastructure and projects sector should prioritise responsible AI practices, transparent decision-making, robust cybersecurity measures, and ongoing monitoring to ensure safe, efficient, and successful project outcomes.

Area	Risk	Description	Sponsor	Investor
Economic	High implementation costs	To manage these risks, the infrastructure and projects sector should prioritise responsible AI practices, transparent decision-making, robust cybersecurity measures, and ongoing monitoring to ensure safe, efficient, and successful project outcomes.	Sponsors might face financial challenges due to the substantial upfront investments required for integrating AI technologies into projects, potentially impacting project feasibility and funding.	Investments in projects with high AI implementation costs might affect returns and profitability, potentially impacting the financial attractiveness of the investment.
Environmental	Resource intensive AI	Large-scale AI implementations might require significant computational power and data storage, leading to electronic waste and resource consumption.	AI implementation could lead to increased energy consumption and resource usage, affecting project sustainability goals and potentially leading to higher operational costs.	Investments in projects with resource-intensive AI technologies could lead to higher operational costs, impacting financial performance and returns on investment.
Geopolitical	Data sovereignty	Reliance on AI systems that involve cross-border data sharing could raise concerns about data privacy and sovereignty, potentially leading to regulatory challenges.	Reliance on AI technologies involving cross-border data sharing might raise data privacy and sovereignty concerns, leading to potential regulatory hurdles and risks.	Investments in projects heavily dependent on cross-border data sharing might face data privacy and regulatory risks, impacting the project's value and investor confidence.
Societal	Loss of human expertise	Overreliance on AI might diminish the role of human expertise in project planning and decision-making, potentially leading to suboptimal outcomes.	Overreliance on AI could result in diminished human involvement and expertise, potentially leading to suboptimal decision-making and project outcomes.	Investments in projects that rely heavily on AI might face challenges if the diminished role of human expertise impacts the project's decision-making and operational efficiency.
Technological	Algorithmic bias	AI systems can inherit biases from training data, potentially leading to unfair or discriminatory outcomes in project planning and execution.	AI systems inheriting biases from training data could lead to unfair or discriminatory project planning and execution, potentially leading to reputational damage and legal issues.	Investments in projects with inadequate bias mitigation measures could face reputational risks, potential legal liabilities, and issues with stakeholder acceptance.
Safety	Cybersecurity vulnerabilities	To manage these risks, the infrastructure and projects sector should prioritise responsible AI practices, transparent decision-making, robust cybersecurity measures, and ongoing monitoring to ensure safe, efficient, and successful project outcomes.	Integrating AI introduces new cybersecurity risks, potentially exposing projects to data breaches, unauthorised access, and disruptions due to cyberattacks.	Investments in projects with insufficient cybersecurity measures could lead to financial losses and reputational damage in case of cyberattacks or data breaches.

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Real Estate and Construction Sector

Impact

AI brings transformative changes to the real estate and construction sector, revolutionising how properties are bought, sold, designed, built, and managed. AI brings transformative changes to the real estate and construction sector, revolutionising how properties are bought, sold, designed, built, and managed.

Property search and valuation

AI analyses vast real estate databases, providing accurate property valuations, comparing market trends, and aiding buyers and sellers in making informed decisions.

Virtual tours and visualisation

AI-powered virtual reality (VR) and augmented reality (AR) technologies offer immersive property tours and architectural visualizations, enhancing the property viewing experience.

Risks

To mitigate these risks, the life sciences sector should adopt responsible AI practices, prioritise data privacy, invest in robust cybersecurity measures, ensure algorithmic fairness, and foster a collaborative approach between AI systems and human healthcare professionals to ensure safe and ethical implementation of AI technologies.

Area	Risk	Description	Owner	Investor
Economic	Unequal adoption	Larger real estate firms might gain a competitive advantage through advanced AI implementations, potentially limiting opportunities for smaller players.	Property owners might face challenges if they lack resources to adopt advanced AI technologies, potentially impacting property management efficiency and competitiveness.	Investments in real estate projects that fail to adopt AI technologies might become less competitive in the market, affecting their attractiveness to tenants and potential returns.
Environmental	Resource-intensive AI	Large-scale AI implementation might require significant computational power and data storage, potentially leading to electronic waste and resource consumption.	AI implementation might require significant computational power and data storage, leading to increased operational costs for property owners.	Investments in projects using resource-intensive AI models could lead to higher operational costs, potentially affecting the project's financial performance.
Geopolitical	Dependency on foreign AI	Dependence on foreign AI providers might lead to technological dependencies and potential geopolitical vulnerabilities in real estate operations.	Relying heavily on AI technologies from foreign providers could lead to technological dependencies, potential geopolitical vulnerabilities, and data sovereignty concerns.	Investments in projects heavily dependent on foreign AI providers might face geopolitical risks, technological dependencies, and potential regulatory challenges.
Societal	Loss of human interaction	Overreliance on AI might reduce the importance of human expertise and personal interactions in property transactions and management.	Overreliance on AI in property management could reduce the personal touch and interactions with tenants, impacting tenant satisfaction and relationships.	Investments in properties with reduced human interaction due to AI might impact tenant satisfaction and retention, potentially affecting investment returns.
Technological	Algorithmic bias	AI systems can inherit biases from training data, potentially leading to unfair or discriminatory property valuations or rental decisions.	AI-generated decisions, such as property valuations or rental recommendations, might be biased if not properly addressed, potentially leading to disputes and legal issues.	Investments in properties with reduced human interaction due to AI might impact tenant satisfaction and retention, potentially affecting investment returns.
Safety	Product malfunctions	AI-powered construction equipment or systems might malfunction, posing safety risks to workers and potentially leading to accidents or project delays.	AI-powered systems used for property management might malfunction, posing safety risks to tenants and impacting operational efficiency.	Investments in properties with inadequate safeguards against AI system malfunctions could lead to tenant safety concerns, financial losses, and reputational damage.

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Technology, Media and Communications

Impact

AI has a profound impact on the technology, media, and communications sector, reshaping how content is created, distributed, consumed, and monetised. AI transforms the technology, media, and communications sector by enhancing content creation, personalising user experiences, optimising advertising, and providing valuable insights. Its ability to process and analyse vast amounts of data contributes to more efficient content production, improved audience engagement, and the evolution of media consumption patterns.

Content creation and curation

AI transforms the technology, media, and communications sector by enhancing content creation, personalising user experiences, optimising advertising, and providing valuable insights. Its ability to process and analyse vast amounts of data contributes to more efficient content production, improved audience engagement, and the evolution of media consumption patterns.

Personalised experiences

AI tailors content and recommendations to individual preferences, enhancing user engagement and satisfaction across platforms such as streaming services, social media, and news websites.

Risks

To mitigate these risks, the life sciences sector should adopt responsible AI practices, prioritise data privacy, invest in robust cybersecurity measures, ensure algorithmic fairness, and foster a collaborative approach between AI systems and human healthcare professionals to ensure safe and ethical implementation of AI technologies.

Area	Risk	Description	Technology	Investor
Economic	Job displacement	Automation driven by AI adoption could lead to job losses in certain sectors, impacting the workforce and potentially leading to economic challenges.	For both property owners and investors in the real estate & construction sector, write what risks they face across the following elements: unequal adoption, resource intensive AI, dependency on foreign AI, loss of human interaction, algorithmic bias and product malfunctions.	Investments in firms heavily reliant on AI could face challenges if job displacement affects workforce stability and overall financial performance.
Environmental	E-waste	Rapid technological advancements driven by AI could lead to shorter device lifecycles and increased electronic waste, contributing to environmental concerns.	The fast-paced evolution of AI-driven technologies could contribute to shorter device lifecycles, leading to increased electronic waste generation and potential environmental concerns.	Investments in companies producing short-lived AI-driven devices might face environmental concerns and potential backlash from environmentally conscious investors.
Geopolitical	Data sovereignty	International collaborations involving cross-border data sharing for AI applications might raise data privacy and sovereignty concerns, leading to regulatory challenges.	International collaborations involving cross-border data sharing for AI applications could raise data sovereignty concerns, potentially leading to regulatory challenges and compliance issues.	Investments in companies relying on cross-border data sharing for AI applications might face regulatory risks and potential negative impacts on investor confidence.
Societal	Privacy concerns	AI-driven data collection and analysis raise concerns about personal privacy and data security, potentially leading to public backlash and regulatory actions.	AI-driven data collection and analysis raise privacy concerns among users, potentially leading to public backlash, reduced user trust, and regulatory actions.	Investments in firms with AI-driven data collection practices might face reputational risks if privacy concerns lead to user distrust, impacting user engagement and profitability.
Technological	Deepfakes and mis-information	AI-generated deepfakes and manipulated content pose risks to media credibility and public trust, potentially leading to misinformation and societal unrest.	The creation and spread of AI-generated deepfakes and manipulated content pose risks to the credibility of media content, impacting public trust and the reliability of information.	Investments in companies not adequately addressing deepfake and misinformation risks might face reputational damage, regulatory actions, and legal liabilities.
Safety	Ethical dilemmas	AI-powered content generation and manipulation could raise ethical concerns about the authenticity and accuracy of media, affecting societal trust.	AI-driven content generation and manipulation could raise ethical questions about the authenticity and accuracy of media, leading to reputational damage and societal challenges.	Investments in companies involved in AI-driven content manipulation might face ethical challenges, affecting brand reputation, shareholder value, and long-term sustainability.

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Energy & Utilities

Impact

AI has a transformative impact on the energy and utilities sector, revolutionising operations, efficiency, sustainability, and customer engagement. AI transforms the energy and utilities sector by optimising operations, enhancing sustainability, improving customer experience, and fostering innovation. Its ability to analyse vast datasets and provide actionable insights empowers the industry to transition towards cleaner energy sources, improve efficiency, and ensure reliable energy supply.

Smart grid management

AI optimises the distribution of electricity across smart grids by analysing real-time data on energy consumption, weather patterns, and grid conditions. This enables dynamic load balancing, minimises energy wastage, and reduces downtime.

Supply chain management

AI-driven predictive maintenance analyses sensor data from equipment such as turbines and transformers to detect anomalies and foresee potential failures. This allows utilities to schedule maintenance proactively, reducing downtime and improving asset lifespan.

Risks

Managing these risks requires a proactive approach, including careful planning, ethical considerations, robust cybersecurity measures, transparent AI practices, and ongoing monitoring to ensure responsible and beneficial AI integration in the consumer products sector.

Area	Risk	Description	Utilities	Investor
Economic	Job displacement	Automation and AI adoption might lead to job losses in roles that involve routine tasks, affecting the workforce and potentially leading to social and economic challenges.	As utilities adopt AI and automation, certain job roles could become redundant, potentially leading to workforce disruption, dissatisfaction, and challenges in managing workforce transitions.	As utilities firms implement AI and automation, job losses could impact workforce stability and potentially lead to social and regulatory challenges.
Environmental	Unintended environmental consequences	Poorly designed AI systems could lead to suboptimal decisions affecting energy generation and distribution, potentially leading to environmental harm.	Poorly designed AI systems might make suboptimal decisions in energy management and distribution, potentially leading to environmental harm and regulatory non-compliance.	AI implementations that neglect environmental considerations might lead to ecological damage or non-compliance with sustainability regulations, affecting the utility's reputation and financial performance.
Geopolitical	Dependency on foreign AI	Dependence on foreign AI providers could lead to geopolitical dependencies, affecting national security and sovereignty.	Relying heavily on AI technologies from foreign providers could result in technological dependencies, potentially impacting data sovereignty, national security, and business continuity.	Investments in utilities heavily dependent on foreign AI providers might lead to geopolitical dependencies, impacting investment stability and returns.
Societal	Equity and access	AI implementation might disproportionately benefit certain socioeconomic groups, leading to inequalities in access to clean energy and technology.	If AI implementation isn't inclusive, it might disproportionately benefit certain segments of society, creating inequalities in access to clean energy and technological advancements.	Investments in utilities heavily dependent on foreign AI providers might lead to geopolitical dependencies, impacting investment stability and returns.
Technological	Technical vulnerabilities	AI implementation might disproportionately benefit certain socioeconomic groups, leading to inequalities in access to clean energy and technology.	AI systems could be vulnerable to technical failures, software bugs, and other technical issues, potentially leading to disruptions in energy supply and grid operations.	Investments in utilities with inadequate safeguards against technical vulnerabilities might face operational disruptions, affecting the utility's financial performance and value.
Safety	Cybersecurity vulnerabilities	AI integration introduces new attack vectors for cyber threats, which could lead to unauthorised access, data breaches, and potential disruptions to energy systems.	The integration of AI introduces new attack vectors for cyber threats, potentially leading to unauthorised access, data breaches, and disruptions to energy systems.	Investments in utilities with insufficient cybersecurity measures could expose investors to financial losses and reputational damage in the event of cyberattacks or data breaches.

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Hotels & Leisure

Impact

AI has a transformative impact on the hotels and leisure sector, reshaping guest experiences, operations, marketing, and overall industry dynamics. AI revolutionises the hotels and leisure sector by offering personalised services, optimising operations, and improving overall guest experiences. By leveraging AI's capabilities, the industry can remain competitive, innovative, and responsive to evolving customer demands.

Enhanced guest experience

AI revolutionises the hotels and leisure sector by offering personalised services, optimising operations, and improving overall guest experiences. By leveraging AI's capabilities, the industry can remain competitive, innovative, and responsive to evolving customer demands.

Personalised services

AI analyses guest preferences and behaviours to offer tailored recommendations for dining, activities, and entertainment, creating unique and memorable experiences.

Risks

In order to mitigate these risks, the hotels and leisure sector should prioritise responsible AI practices, transparent decision-making, cybersecurity measures, and ongoing monitoring to ensure safe, reliable, and customer-centric operations.

Area	Risk	Description	Owner	Investor
Economic	Unequal adoption	Larger hotels with more resources might gain a competitive edge through advanced AI implementations, potentially widening the gap between larger and smaller players.	Smaller hotels with limited resources might struggle to adopt advanced AI technologies, potentially creating a competitive disadvantage against larger establishments.	Investments in hotels that fail to adopt AI and technological advancements might become less competitive in the market, affecting their profitability and returns.
Environmental	Energy consumption	AI systems can be energy-intensive, especially during training, leading to increased energy consumption and contributing to environmental concerns.	The energy-intensive nature of AI systems, especially during training, could lead to increased operational costs and environmental concerns, impacting the hotel's sustainability efforts.	Investments in hotels with high energy consumption due to AI systems could lead to increased operational costs, potentially impacting financial performance.
Geopolitical	Data privacy and sovereignty	Reliance on AI systems that involve cross-border data sharing could raise data privacy and sovereignty concerns, potentially leading to regulatory challenges.	Reliance on AI systems that involve cross-border data sharing could raise concerns about data privacy and sovereignty, potentially leading to regulatory challenges and fines.	Investments in hotels heavily dependent on cross-border data sharing might face data privacy and regulatory risks, impacting their value and investor confidence.
Societal	Privacy concerns	AI-driven data collection and analysis raise privacy concerns among guests, potentially leading to backlash, negative perceptions, or regulatory actions.	AI-driven data collection and analysis might raise privacy concerns among guests, leading to reputational damage and potential legal actions if not managed properly.	Investments in hotels with inadequate data privacy measures might face reputational risks, leading to guest dissatisfaction and potential legal liabilities.
Technological	Model complexity	Complex AI models might lack transparency, making it challenging to understand and address errors or biases in decision-making.	Complex AI models might lack transparency, making it challenging to understand and address errors or biases in decision-making, potentially leading to suboptimal guest experiences.	Investments in hotels with complex and opaque AI models might face challenges in transparency and accountability, impacting guest satisfaction and long-term value.
Safety	Product malfunctions	AI-powered systems might malfunction, posing safety risks to guests and staff, and potentially leading to accidents or service interruptions.	AI-powered systems might malfunction, leading to service disruptions or safety risks for guests and staff, potentially damaging the hotel's reputation.	Investments in hotels with inadequate safeguards against product malfunctions could lead to guest safety concerns, financial losses, and reputational damage.

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Lifesciences

Impact

AI has a profound impact on the life sciences sector, transforming the way research is conducted, healthcare is delivered, and medical advancements are achieved. AI revolutionises the life sciences sector by expediting research, improving diagnostics, enabling personalised medicine, and enhancing patient care. Its ability to analyse vast datasets and derive insights contributes to medical advancements, improved patient outcomes, and the evolution of healthcare practices.

Drug discovery and development

AI revolutionises the life sciences sector by expediting research, improving diagnostics, enabling personalised medicine, and enhancing patient care. Its ability to analyse vast datasets and derive insights contributes to medical advancements.

Personalised medicine

AI analyses individual patient data, including genetics, lifestyle, and medical history, to tailor treatment plans and medication recommendations, leading to more effective and targeted healthcare interventions.

Risks

To mitigate these risks, the life sciences sector should adopt responsible AI practices, prioritise data privacy, invest in robust cybersecurity measures, ensure algorithmic fairness, and foster a collaborative approach between AI systems and human healthcare professionals to ensure safe and ethical implementation of AI technologies.

Area	Risk	Description	Pharmaceuticals	Investor
Economic	High research costs	While AI can accelerate research, initial investments in AI technologies, data acquisition, and expertise might strain research budgets, especially for smaller organizations.	Pharmaceutical firms might face significant costs associated with AI-driven drug discovery and development, including investments in technology, data, and expertise.	Investments in pharmaceutical companies that heavily rely on AI for drug discovery and development might be associated with high research and development costs, potentially impacting profitability.
Environmental	Energy consumption	AI models, particularly deep learning ones, can be energy-intensive during training, contributing to increased energy consumption and environmental concerns.	AI models used in research and drug development can be energy-intensive, contributing to increased operational costs and environmental concerns.	Investments in companies using energy-intensive AI models might lead to higher operational costs and potential environmental concerns, impacting financial performance.
Geopolitical	Data sovereignty	Collaborations involving cross-border data sharing for AI research could raise data privacy and sovereignty concerns, potentially leading to regulatory hurdles.	Collaborations involving cross-border data sharing for AI-driven research could raise data privacy and sovereignty concerns, leading to regulatory and legal challenges.	Investments in companies with cross-border data sharing practices could face regulatory risks, impacting the company's value and investor confidence.
Societal	Loss of human interaction	Overreliance on AI in patient care could reduce the importance of human empathy and interaction in healthcare, affecting patient trust and well-being.	Overreliance on AI tools might reduce the role of human expertise and intuition in drug discovery, potentially impacting the quality and accuracy of research outcomes.	Investments in firms heavily relying on AI without proper human oversight might face challenges if the role of human expertise is diminished, potentially impacting research quality.
Technological	Model complexity	Complex AI models might lack transparency and interpretability, making it challenging for medical professionals to trust and understand AI-generated insights.	Complex AI models might lack transparency and interpretability, making it challenging for researchers and regulators to trust and understand AI-generated insights.	Investments in companies using complex AI models might face challenges in terms of transparency, regulatory approvals, and adoption by healthcare professionals.
Safety	Misinterpretation of data	AI systems might misinterpret medical data, leading to incorrect diagnoses or treatment recommendations, risking patient safety.	AI systems might misinterpret complex biomedical data, leading to incorrect conclusions in drug development, which could result in failed clinical trials or inaccurate drug properties.	Investments in companies relying heavily on AI could face risks if AI-generated insights are misinterpreted, leading to inaccurate research conclusions and potential setbacks in drug development.

Financial Markets

Impact

AI has a transformative impact on the financial markets sector, revolutionising trading, risk management, customer service, and investment strategies. AI has a transformative impact on the financial markets sector, revolutionising trading, risk management, customer service, and investment strategies.

Algorithmic Trading

AI-driven algorithms analyse market data in real-time to execute trades at optimal prices, speeds, and volumes, increasing efficiency and liquidity in the markets.

Credit Scoring

AI analyses creditworthiness based on multiple data points, enabling more accurate credit scoring and expanded access to credit for underserved populations.

Risks

To manage these risks, the financial markets sector should prioritise responsible AI practices, transparency in algorithmic decision-making, regular monitoring and testing of AI systems, and collaboration between industry stakeholders and regulators to ensure ethical and safe AI integration in financial operations.

Area	Risk	Description	Firm	Investor
Economic	Algorithmic errors	AI-driven algorithms could malfunction or make erroneous decisions, leading to financial losses, market instability, and potential economic impacts.	Overreliance on AI-driven algorithms in trading and risk management could lead to errors, resulting in financial losses, reputational damage, and regulatory sanctions.	Investments in firms heavily reliant on AI-driven trading could face financial losses if algorithmic errors occur, impacting investment returns.
Environmental	Resource intensive AI	Large-scale AI implementation might require significant computational power and data storage, potentially leading to electronic waste and resource consumption.	Implementing resource-intensive AI technologies might lead to increased operational costs, potentially impacting profitability and resource management.	Investments in companies using resource-intensive AI models could lead to higher operational costs and potential financial challenges.
Geopolitical	Data sovereignty	International data sharing for AI-driven trading and analysis could raise data privacy and sovereignty concerns, leading to regulatory challenges.	Collaborations involving cross-border data sharing for AI-driven financial operations could raise data privacy and sovereignty concerns, leading to regulatory challenges.	Investments in firms heavily dependent on cross-border data sharing for AI-driven financial operations might face regulatory risks, impacting investor confidence.
Societal	Market manipulation	AI-powered trading could be exploited for market manipulation, potentially leading to unfair trading practices and loss of investor trust.	AI-powered trading algorithms might be exploited for market manipulation, leading to unfair trading practices, regulatory penalties, and loss of investor trust.	Investments in companies vulnerable to market manipulation risks might face regulatory actions, reputational damage, and potential financial losses.
Technological	Market sentiment manipulation	AI-powered algorithms might amplify misinformation or manipulate market sentiment through social media, impacting market stability.	Manipulating market sentiment through AI-driven social media influence could lead to misinformation, market instability, and reduced investor confidence.	Investments in firms exposed to market sentiment manipulation could face investor distrust, market instability, and potential financial volatility.
Safety	Algorithmic errors	Malfunctioning AI algorithms could lead to unintended trading actions, causing significant financial losses and market disruptions.	Unaddressed algorithmic biases could lead to unfair trading practices, biased investment decisions, and potential legal liabilities.	Investments in companies with unaddressed algorithmic biases could face regulatory scrutiny, legal liabilities, and reputational damage.

AI & Partners

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Biographies

Charles Kerrigan, Partner, CMS UK

Charles Kerrigan is a specialist in emerging technologies including crypto, digital assets, Web3 and AI. He works on corporate finance and venture capital transactions in crypto, tokenisation, NFTs, Web3 and DeFi. He works on consulting projects on blockchain and AI for public bodies, policymakers, standards institutions, and corporations. At CMS he is a Partner in a team that covers emtech. He has roles on the advisory boards of AI and crypto firms and of trade bodies. He is the Editor and co-author of Artificial Intelligence Law and Regulation (Edward Elgar, 2022). He is the Contributing Editor of AI, Machine Learning & Big Data (GLI, 2023).

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Erica Stanford is a fintech and AI specialist. She is author of Crypto Wars: Faked Deaths, Missing Billions and Industry Disruption which was awarded 'Highly Commended' in the Business Book Awards. She is a Fintech and AI Specialist at CMS where she consults in a non-legal capacity. She is an industry expert on fraud and fraud prevention. She speaks and writes globally about digital assets, scams, and the integration of AI. She is associate guest lecturer on digital assets at Warwick Business School and founder of the UK's leading community the Crypto Curry Club. Erica writes the weekly industry newsletter the Crypto Currier.

Isabel Neelands, Associate, CMS UK

Isabel is a lawyer in the finance and deep tech practice teams at CMS, with specialist knowledge in AI. Isabel has an academic background in the subject, holding a master's degree in Big Data in Culture and Society from King's College, London. Whilst at King's College, Isabel's global outlook, entrepreneurism and leadership in big data, machine learning and AI was recognised in the Principal's Global Leadership Award. Isabel has mentored emerging AI companies, sharing her valuable expertise in the sector. Her legal experience includes acting for banks, private equity sponsors and corporate borrowers in relation to a range of financings, many involving digital assets.

Sean Donald John Musch, Co-CEO/CFO, AI & Partners

Sean has an extensive background in the entertainment industry (e.g. film and art), and has a specialism in design. Alongside this, Sean has more than a decade of experience in the professional services sector, including holding the position of a tech accountant for 5 years. Sean knows about auditing and has helped with an IPO on the New York stock exchange. As well as being a compliance expert, he has deep expertise in implementation aspects of audit & assurance engagements, and has been working with the largest global tech MNEs over the past 5 years.

Michael Charles Borrelli, Co-CEO/COO, AI & Partners

Michael Charles Borrelli is a highly experienced financial services professional with over 10 years of experience. He has held executive positions in compliance, regulation, management consulting and operations for institutional financial services firms, consulted for FCA-regulated firms on strategic planning, regulatory compliance and operational efficiency. In 2020, Michael set-up the operations model and infrastructure for a crypto-asset exchange provider, and has been actively engaged in the Web 3.0 and AI communities over the last 4 years. He currently advises a host of AI, Web3, DLT and FinTech companies.