Digital Workshops
(AI and Digital Transformation Workshops)

AI in Energy and Economics:
Security issues, Risks, Regulations, Opportunities and Challenges

February 28, 2026

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Rationale of the Workshop

This workshop (jointly organized by PERPAL - FSMVU, HACE – IHU, CEDR – TSUE and ERI - AYU) aims to provide an environment and a new platform to discuss recent trends in digitalization, AI and machine learning, contemporary business practices and technological developments in energy and economics. It provides a new platform to discuss, exchange ideas and learn about the latest developments related to AI-driven decision-making in energy, security issues and regulations as well as the broader digital and AI transformation. Challenges, risks and opportunities will also be discussed in detail.

In an era of innumerable innovations, rising trend of uncertainties and countless efforts to build new standards, the drivers behind this rapid and impressive developments are also of major curiosity. Relatively dynamic vanguard of innovations, cutting edge solutions and more efficient payment and transfer systems, different opinions, expectations, the latest trends in research in all these new fields will be examined thoroughly.

The workshop provides a new opportunity to discuss, learn and even shape the future of digitalization. The goal, hence, is to provide a space for open and active discussions about issues surrounding digital and AI transformation. The workshop aims to bring together different opinions, expectations, cutting-edge research in these new fields.

Artificial Intelligence (AI) and Digital Transformation

Digital transformation and artificial intelligence (AI) are revolutionizing the field of energy and economics, reshaping how businesses operate and how they make decisions. At the core of this

transformation is the integration of advanced technologies into traditional processes, allowing for greater efficiency and enhanced data and security analysis.

Businesses and institutions leverage AI algorithms to process vast amounts of data in real-time, enabling them to make informed decisions, manage risks better, and optimize operations. These technological advancements not only improve transaction speeds but also enhance customer experiences through personalized services, predictive analytics, and automation of routine tasks.

Moreover, the impact of digital transformation also extends to regulatory compliance, security issues and risks related to energy markets. AI systems adopt to identifying patterns and anomalies that may indicate risks or fraudulent activities, which could lead to much more secure provisions.

In finance, business or energy markets, AI-powered models are increasingly used to predict market trends, offering insights that help policymakers and businesses navigate complex economic landscapes. As these technologies continue to evolve, they are likely to play an even more critical role in shaping the energy sector and fostering innovation across various other sectors.

Thus, digital transformation and artificial intelligence (AI) adoption has turned into a priority (and in many cases a necessity) for modern institutions and businesses alike. They both have significant impacts on daily interactions, or the way businesses are done. This workshop aims to elaborate on recent trends in digital transformation and AI usage, as well as contemporary business practices and technological developments, in finance, business and energy sectors.

With the AI, automated systems, programs or machines are created to do the jobs that would normally require significant human resource. An AI-powered automation is also dynamic and adopts to changes in information flows. Digitalization, on the other hand, is about use of digital technologies to transform business models, utilizing digital technologies and digitalizing businesses. Digitalization mostly depends on AI too.

However, they both should be done in such a way that leads to innovation, efficiency and increased productivity. Accordingly, the goal is to harmonize theory and practical implications to enhance innovation and efficiency. Real world practical examples of the contemporary digitalization and technological transformation, as well as the green revolution are in order.

Meanwhile, in an era of innovations, rising trend of uncertainties and countless efforts to build new standards, significance of the twin transformations of AI and digitalization is a reality. They represent a relatively dynamic new environment. The drivers behind this rapid and impressive developments are also of major curiosity. The workshop provides a new opportunity to discuss, learn and even shape the future of digitalization and AI. It aims to bring together different opinions, projections, cutting-edge research in all these new fields together.

Analysis in this workshop are expected to summarize the drastic changes post the COVID-19 pandemic accelerating digital transformation, and the future of work. The workshop provides an environment for deep discussions, latest developments related to crypto or blockchain technologies, innovative new technological solutions, AI-driven decision-making and more

efficient payment and transfer systems, as well as novel developments in the field of energy economics.

The workshop puts a stronger emphasis on the risks and security related implications of AI-driven decision-making. Efficiency is another key issue of this process. Better use of data will enable increased efficiency in business practices. Generative AI or GenAI is expected to further accelerate this process. Impact of AI on market efficiency and the related risks will be evaluated much more properly.

Discussion Topics (includes, but not limited to):

The following topics shall form the core structure of the workshop:

- AI in Energy and Economics: AI-powered decision-making and applications in energy,
  - Energy efficiency,
  - Digital governance,
  - AI in public policies,
  - Digital energy and AI,
  - Financial technologies,
  - Sustainable digital transformation,
  - Payment Services
  - Payment Gateways & Orchestration
  - Green Finance in energy sector,
  - Industry 4.0, Industry 5.0 and Industry 6.0
  - Sustainable digital transformation
- Digitalization in public policies,
  - AI in public policies,
  - Digital energy and AI,
  - FinTech in Public Institutions,
- Artificial Intelligence,
  - Generative AI,
  - Machine learning,
  - AI based modelling,
  - Deep learning,
  - Cognitive computing,
  - AI and future,
  - AI and its applications in energy,
- Big Data,
  - Better use of data,
  - Data analytics,
  - AI and data analytics,
  - AI and data centers,
- Security, Risks and Challenges: Security issues, risks and challenges associated with AI adoption in energy sector and decision-making processes
  - Disruptions to the Markets, Production or Work,

  - Systemic risk
  - Efficiency
  - Trust
  - Fairness
  - Privacy
  - Security
  - Changing mindset
  - AI at a crossroad – opportunities, risks, and the path forward,
- Ethical implications of AI: AI ethics and bias mitigation could help further promote responsible and fair AI. Ethical considerations include:
  - AI and ethics
  - Ethical and regulatory issues
  - Ethical AI and responsible AI
  - Potential ethical dilemmas posed by AI
  - Responsible innovation and ethical accountability
- Regulatory issues: Regulations surrounding artificial intelligence applications in energy
  - AI governance
  - AI regulations in energy and economics
  - Regulatory frameworks
  - Data protection laws
  - Anti-money laundering measures
  - Fraud detection
  - Technology and regulation interaction
  - Elaborating on the role of regulation in AI and digitalization,
- A future-focused concluding chapter: Discussing emerging trends, potential future applications of AI in energy,
  - Potential future applications,
  - Future Trends and Strategic Implications
  - Building Resilient, AI-Ready Organizations
  - What's Next: A Practical Guide for Leaders

Meanwhile, to make sure AI is reliable and applied for the good of people and the environment, it will be essential to have a common understanding of the opportunities and potential hazards. The pros and cons of new technologies and innovations will be underlined. Meanwhile, in its analysis over contemporary business practices and technological developments in energy and economics, the workshop also aims to assess ways to overcome risks, security issues and harness the opportunities.

Other key topics:

- Investment structures, risk profiles, capital flows and financial impacts of the energy transition
- Volatility and Uncertainty in Energy Pricing
- Technology, Innovation, and Financial Disruptions
- Energy Security and Market Regulations

- Price Volatility, Risk Management and Uncertainty
- Energy Price Dynamics
- Carbon Trading and Green Finance
- Digital Infrastructure and Smart Grids
- Blockchain and Cryptocurrency Applications
- Real-Time Data Analytics and AI Trading
- Digital Twin Technology
- Cybersecurity in Energy Markets
- Smart Contracts and Automated Trading
- Decentralized Energy Systems
- Post-Pandemic Accelerating Digital Transformation
- Digital Globalization
- AI and its applications in Energy and Economics
- Digital supply networks

Event details:

Workshop location: Ayasofya Campus, FSMVU
Date of event: **February 28, 2026**

Key dates for the workshop:

- Workshop Proposals Deadline: December 31, 2025
- Review Results: January 10, 2026
- Full Chapters Due: February 10, 2026
- Event date: February 28, 2026
- Tentative Publication Date (for the book): Fall 2026

Workshop policies:

A book (from one of the leading international publication houses) will be published out of the workshop submissions (in progress).

No submission or publication fee is required for the authors.

Please do not hesitate to get in touch, if you have any questions.

We look forward to hosting and working with the distinguished faculty focusing on these topics.

Best regards,

Related links:

- Call link: https://www.bilalbagis.com/academia/workshop-ai-in-energy-2026
- Google Form to register: https://forms.gle/N4FdGwbPNM6LSGtg6

- FSMVU Econ announcement: https://econ.fsm.edu.tr/etkinlik/AI-in-Energy-and-Economics-workshop2025-11-13-13-48-51pm
- EcoPolitics Café Blog announcement: https://bilalbagis.wordpress.com/2025/11/14/ai-in-energy-and-economics-workshop/
- EFE'2026 link: https://www.efecongress.org/2026/index.php

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