



## Annual Report

December 2025

## **JCOTS Membership**

Delegate C.E. Cliff Hayes, Jr., Chair  
Delegate Bonita Anthony  
Delegate Mike Cherry  
Delegate Michelle Lopes Maldonado  
Delegate David Reid  
Delegate Anne Ferrell Tata  
Delegate Michael Webert

Senator Adam Ebbin, Vice-Chair  
Senator Lashrecse Aird  
Senator Christie New Craig  
Senator Barbara Favola  
Senator Ghazala Hashmi

## **Blockchain Advisory Committee Membership**

Senator Saddam Salim, Chair  
Senator Lashrecse Aird  
Senator Russet Perry  
Delegate Mike Cherry  
Delegate Michelle Lopes Maldonado  
Delegate David Reid  
Delegate Wren Williams

Mr. Paul Brigner  
Dr. Eric Burger  
Ms. Amanda Habansky  
Mr. Dan Hoffman  
Mr. Greg Leffel  
Mr. Ciaran McMullan  
Ms. Jennifer Taylor

## **JCOTS Staff**

Ms. Jodi Kuhn, Executive Director  
Dr. Kira Allmann, Chief Policy Analyst

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## **Executive Summary**

The Joint Commission on Technology and Science met five times in 2025. They received presentations from 10 experts within industry and academia, eight reports from staff ranging from briefs to full research studies, and voted on 18 policy recommendations. The Commission voted to endorse 10 of the policy recommendations to be introduced as bills and one as a budget amendment for the 2026 General Assembly Session.

In addition, the Blockchain Advisory Committee was established for one year and met five times. The Committee consisted of legislators both within and outside of JCOTS, industry representatives, and stakeholders. The Committee's work focused on exploring the topics of regulatory sandboxes, decentralized autonomous organizations (DAOs), and virtual currency kiosks. The Committee voted on one policy recommendation to move to the Full Commission but it was ultimately not endorsed for the 2026 Session.

## **JCOTS Full Commission**

*The following is an overview of the information presented at the JCOTS full Commission meetings.*

### **Meeting #1 - May 7, 2025**

#### **Presentation: JCOTS Deliverables and Workplan**

*Ms. Jodi Kuhn, JCOTS Executive Director*

Ms. Kuhn presented the types of deliverables the members could expect in the coming year. The deliverables, from the least level of effort to the most were: brief, snapshot, bill study, limited study, and research study. She reviewed the 10 bills that were sent to JCOTS during the 2025 General Assembly Session. The eligible bills were collapsed into four study topics, of which there was capacity to study three. After a discussion, the Commission voted to study government organizational structure within the Office of the Attorney General, AI provenance and labeling, and algorithmic rental pricing.

#### **Presentation: Quantum Snapshot**

*Dr. Kira Allmann, JCOTS Chief Policy Analyst*

Dr. Allmann presented on Quantum Information Science and Technology (QIST). There are three types of QIST and she provided an overview of each and relevant policy issues. Policy issues included security and privacy, scaling AI, research and development, supply chain resilience, and workforce preparedness. Questions from members included where the United States was relative to other countries, encryption, and identifying the supply chain.

#### **Presentation: Quantum Information Science and Technology**

*Dr. Jessica Rosenberg, George Mason University*

Dr. Rosenberg presented issues surrounding research, education, and workforce development related to QIST. She emphasized that Virginia should not fall behind in their support of quantum research and development which begins with quantum education as early as kindergarten. Dr. Rosenberg's research showed there is more interest than knowledge in quantum and she is committed to improving access to such education. Questions from the members included available degree programs, what other states are doing, and how information is shared while maintaining security.

#### **Other Business**

Delegate Hayes read the nominations for membership on the Blockchain Advisory Committee.

### **Meeting #2 – August 18, 2025**

#### **Presentation: Virginia Academy of Science, Engineering, and Medicine**

*Mr. Nat Draper, VASEM Executive Director*

*Mr. Alfred Grasso, VASEM President*

Mr. Draper provided a brief history of VASEM, its mission, and its programs throughout the state. Mr. Grasso introduced himself and reviewed recent VASEM publications including a whitepaper on powering Virginia's data centers, an introduction to artificial intelligence, and their strategic roadmap. The strategic roadmap included four priority areas which they recommended as areas of

focus moving forward. Mr. Grasso ended by highlighting the 11 years of summits that VASEM has hosted and encouraged members to attend their upcoming summit on AI. Questions from members included VASEM's funding and details about the COVES fellowship.

### **Presentation: AI Chatbot Snapshot**

*Dr. Kira Allmann*

Dr. Allmann gave an overview of AI chatbots, including descriptions of the types of chatbots (AI Assistants, AI Companions and AI Agents). She emphasized the important distinguishing characteristics of chatbots are their underlying technology and their ability to interact with users with natural language. She provided policy issues and considerations in the areas of health and well-being, privacy, security, transparency and explainability, workforce development, and democratic culture. Questions from the members included how to address risks associated with chatbots used for mental health support, what are the most important policy considerations, how to negate bias, and disclosure requirements.

### **Other Business**

Delegate Hayes appointed Senator Ebbin and Delegate Maldonado to the Attorney General's workgroup on synthetic media. Delegate Hayes reviewed the virtual participation policy with the Commission which is unchanged from last year and allows remote participation as approved by the Chair. The Commission voted unanimously to approve the policy.

## **Meeting #3 September 3, 2025**

### **Presentation: Understanding Gaps in the Adoption of Broadband Internet Service**

*Dr. John Horrigan, Senior Fellow, Benton Institute for Broadband & Society*

Dr. Horrigan provided statistics on broadband subscriptions based on data from the 2023 American Community Survey. He provided Virginia specific data over time on topics such as overall broadband adoption and emphasized that variations in adoption center on age, income, and geography. He offered solutions to gaps in adoption which included digital skills training, affordability programs for low-income households, and advocacy at the Federal level. Questions from members included inquiries about BEAD funding, how broadband access is defined, and whether some localities may already be at a saturation point.

### **AI Training Data (Brief)**

*Dr. Kira Allmann*

Dr. Allmann presented the JCOTS brief on AI training data. This topic was not voted on for a bill study but a brief was requested to provide an overview on the topic. Dr. Allmann highlighted policy issues such as copyright infringement, consent and exposure to harmful content. Policy solutions which she proposed centered on training data transparency including making training data scrutable to the public and providing the public with information as to how their data could be used in AI training.

### **Algorithmic Pricing Devices (Bill Study)**

*Dr. Kenn Dela Cruz, JCOTS COVES Fellow*

Dr. Dela Cruz presented the bill study on algorithmic pricing devices, specifically surrounding rental pricing. He described algorithmic pricing and the current landscape including the court case against Realpage by the Department of Justice. Due to that and other pending litigation, the

recommendations he made in the bill study are to be considered once those cases have been resolved.

### AI Provenance and Labeling (Bill Study)

*Ms. Navya Annapareddy, JCOTS COVES Fellow*

Ms. Annapareddy presented the bill study on AI Provenance and Labeling. She defined AI labeling and provenance, how it relates to digital content, and key concepts including portability, persistent, and tamper evident. She focused the recommendations on labeling trusted content, not requiring a specific provenance standard, and requiring platforms to carry forward existing provenance data. Questions from members included clarifying definitions, cross-platform interoperability, and mislabeling.

## Meeting #4 October 8, 2025

### AI Provenance and Labeling: Recap and Vote

*Ms. Maggie Beal, Director, Department of Housing and Community Development (DHCD)*

Ms. Beal began the presentation by defining broadband and reviewing the responsibilities and programs within the DHCD Office of Broadband. She provided data on served and unserved locations in Virginia and noted that the unserved localities within the state are getting support through one or all of their programs. DHCD administers several programs to expand infrastructure and Ms. Beal highlighted the Virginia Telecommunications Initiative (VATI) with a special emphasis on recent progress in rural areas, the Line Extension Customer Assistance Program (LECAP), and the Broadband Equity, Access, and Deployment Program (BEAD). Questions from members centered on funding, including Virginia's BEAD application status, ARPA funds, and the eligible use and timing of non-deployment funds.

### AI Provenance and Labeling: Recap and Vote

*Ms. Jodi Kuhn, Executive Director*

Ms. Kuhn reviewed the recommendations on AI provenance and labeling from the September meeting and the Commission voted to endorse the recommendations. The policy recommendations will be introduced in a bill consistent with the AI provenance and labeling bill from 2025 (HB2121/SB1417). Questions from members included whether there was conflict with federal law, the scope of the recommendations, and next steps.

### Presentation: Mitigating Risks and Fostering Innovation through Technology Policy

*Dr. Sylvester Johnson, CEO, Corporation for Public Interest Technology*

Dr. Johnson spoke about AI in medicine, both the potential for tremendous value as well as challenges. He highlighted the technological advances that are already taking place and the benefits of incorporating AI into diagnostics. He provided two case studies of AI used in diagnostic workflows and the initial, positive, performance of the models. Among the cautions that he raised were socioeconomic implications including recognizing the potential negative effects that a lack of access to broadband and subsequently, AI will have on certain populations. Questions from members included defining real-time monitoring, data access/security, and liability.

## Presentation and Recommendations: AI in Personalized Healthcare

*Dr. Kira Allmann, Chief Policy Analyst*

Dr. Allmann presented the JCOTS limited study on AI in healthcare. This study provided a broad overview of the current state and future horizon of AI in healthcare. It found that AI is being used in a multitude of ways, and the focus of many providers is on the evolving use of generative AI, specifically to combat clinical burnout. The policy recommendations included legislation in the area of transparency and disclosures and included a roadmap for responsible AI regulation which incorporates iterative consultation and review.

## Meeting #4 November 5, 2025

### Recap and Vote: AI in Healthcare

*Ms. Jodi Kuhn, Executive Director*

Ms. Kuhn reviewed the findings and recommendations from the AI in Healthcare study that were first presented in October. All seven legislative recommendations were voted on and endorsed by the Commission and the AI Regulatory Roadmap will be considered in December as a potential study topic. Questions from members included the exclusion of smaller health systems from legislation.

### Presentation: Virginia and Digital Opportunity: Building on Success

*Dr. Christopher Ali, Penn State University*

Dr. Ali presented on the digital divide, emphasizing that it will not end when everyone is connected. He introduced the existing barriers to digital inclusion and emphasized that it is about the people rather than the technology. He defined key terms and funding mechanisms. He provided quotes and stories about people navigating the digital world and made recommendations for digital inclusion. Questions from members included how broadband rate setting occurs on a local level and how mandates have worked in other states.

### Presentation and Recommendations: Broadband Affordability and Adoption

*Ms. Jodi Kuhn*

*Dr. Arpit Gupta, University of California Santa Barbara*

Ms. Kuhn presented the study overview for the JCOTS research study on broadband affordability which included the partnership with the University of California Santa Barbara and Berkeley. The study focused on affordability and particularly the consumer's experience in looking for and identifying affordable plans. Dr. Gupta presented the quantitative analysis that he and his colleagues conducted on statewide data which informed the recommendations. The study found that many people with low income rely on mobile services, many consumers find shopping for broadband confusing, and pricing in Virginia is consistent but high relative to what would be considered an affordable plan. The recommendations centered around having accessible, low-cost plans and mobile first websites for public services. Questions from members focused on the cost of the recommendations.

## Meeting #5 December 3, 2025

Presentation: When being “connected” is not enough: Issues of under-connectedness among lower-income Americans

*Dr. Bibi Reisdorf, University of North Carolina Charlotte*

Dr. Reisdorf presented on the importance of looking at “under connectedness” as a more nuanced view of digital inequality; a perspective that comes from the people themselves as opposed to something defined by a researcher or policymaker. She reviewed several published studies on this topic, and results demonstrated the importance of including under connectedness measures to obtain comprehensive assessments of digital inequality. Questions from members centered around clarifying the term “under connectedness” and what other states are doing.

Recap and Vote: Broadband Affordability Study

*Ms. Jodi Kuhn, Executive Director*

Ms. Kuhn presented the recommendations from the Broadband Affordability Study which was introduced at the November meeting. The research study took 10 months and consisted of a literature review, primary data collection, and stakeholder interviews. The Chair opened the floor for discussion and a vote after each recommendation. The Commission did not endorse any of the recommendations and sent five of the six recommendations to the Broadband Advisory Council for consideration.

Recap and Vote: Blockchain Advisory Committee Recommendation

*Senator Sadam Salim, Chair Blockchain Advisory Committee*

Senator Salim presented the recommendation of the Blockchain Advisory Committee to endorse the bill to regulate virtual currency kiosks. He emphasized the importance of such regulation to decrease the fraud that is currently taking place and that this bill has been developed with the input of industry experts. He acknowledged that there is still work to be done on the bill and decisions such as the fee limits to be made. Questions from members included precedent and the potential to use fees for consumer protection. The Commission voted not to endorse the bill as key decisions still needed to be made by the patrons.

Presentation and Vote: JCOTS Administrative Updates

*Ms. Jodi Kuhn*

Ms. Kuhn reviewed the 2025 work plan and noted that the staff completed everything in their workplan. The staff have the capacity to do one full study in 2026 in addition to several briefs and snapshots. This will enable them to have results for the Commission members by October, in time for voting in November. Ms. Kuhn presented options for their 2026 research which included member and staff recommendations. The Commission voted to study the AI Regulatory Roadmap. In the second part of the presentation, Ms. Kuhn requested the Commission’s support to hire two full-time staff which they endorsed.

Presentation and Vote: Bill Study, Gov’t Organizational Structure

*Ms. Jodi Kuhn*

Ms. Kuhn presented the bill study on government organizational structure, specifically within the Office of the Attorney General (OAG). The study found there is no section dedicated to emerging technology, rather the responsibilities are distributed throughout three major areas. The study recommended one dedicated technology “section” housed within the Office of Civil Litigation. This

section should be consistent with existing sections which have both attorneys and support staff. The Commission voted to endorse the recommendation of a budget bill in addition to reaching out to the new administration to gauge their interest in such a plan.

**Presentation: Old Dominion University/Google AI Incubator**

*Mr. Adam Deer, Google Cloud Public Sector*

Mr. Deer spoke about the first of its kind partnership with Old Dominion University to create a unified approach to modernize Virginia and shared the four strategic pillars that will be used to lead the AI economy.

## Blockchain Advisory Committee

*The following is an overview of the information presented at the Commission's Blockchain Advisory Committee meetings.*

### Meeting #1 May 7, 2025

#### Welcome and Introductions

*Senator Saddam Salim, Chair*

*Ms. Jodi Kuhn, Executive Director*

Senator Salim called the meeting to order and each member of the Advisory Committee introduced themselves. Ms. Kuhn spoke on the origin of the Committee and the purpose of the first meeting to introduce the topic of blockchain technology to the members.

#### Presentation: Stablecoins and Tokenization

*Dr. Ian Appel, Darden School at UVA*

Dr. Appel spoke about blockchain's application in finance. He provided an overview of the crypto ecosystem, stablecoins, and the tokenization of financial assets. He provided benefits and drawbacks of the use of blockchain in finance.

#### Presentation: Innovative Disruption: State-Specific Considerations for Cryptocurrencies and Blockchain Technology

*Dr. Waleed Haj Hasan, Wharton School at UPenn*

Dr. Haj Hasan presented from the report that his team produced for JCOTS last year. He emphasized the importance of having a body of knowledge from which legislation should be based otherwise it will be inherently fragmented. He reviewed the main topics of the report and offered an approach to moving forward that consisted of a "Triple A Approach"- a priori, agile, and adapt.

#### Presentation: Blockchain Industry Briefing

*Mr. Paul Brigner, Electric Coin Co.*

Mr. Brigner provided an industry briefing on blockchain and cryptocurrency. He highlighted the leading blockchain platforms, use cases surrounding stablecoins, tokenization of assets, decentralized physical infrastructure networks, the integration of AI, and other key trends.

#### Presentation: HB 1796 Decentralized Autonomous Organizations

*Delegate Dan Helmer, Virginia House of Delegates*

Delegate Helmer presented his bill from the 2025 General Assembly on Decentralized Autonomous Organizations (DAOs) which passed both chambers but was vetoed by the Governor.

### Meeting #2 July 23, 2025

#### Presentation: Regulatory Sandboxes

*Mr. Dan Quan, Adjunct Scholar, CATO Institute*

Mr. Quan stated that the first step when considering a sandbox is to identify the regulatory uncertainties the sandbox could address. He recommended that the sandbox be viewed as a temporary relief to the current law which is not equipped to handle whatever novel business idea or

process is being proposed. In the long term, the law needs to be revisited and culture change of the agency in charge of the regulations/laws must be considered. Mr. Quan highlighted the importance of outreach in terms of engagement with the industry being served by the sandbox.

### **Presentation: Decentralized Autonomous Organizations**

*Mr. Gerald Gallagher, General Counsel, Sei Labs*

Mr. Gallagher testified on the need for Virginia to establish a legal framework tailored to DAOs. He proposed Virginia adopt a model based on the Limited Cooperative Association (LCA), which better aligns with the democratic, global, and flexible nature of DAOs. He emphasized that by acting now, Virginia could become a national leader in internet-native governance and attract the next generation of builders and innovators.

### **Presentation: Decentralized Autonomous Organizations**

*Professor Jim Wheaton, Virginia Bar Association*

Professor Wheaton reviewed the Virginia LLC Act and evaluated the implications of proposed legislation (HB 1796) that would authorize DAOs to register as LLCs in Virginia. He raised concerns about adding DAO provisions onto the existing LLC statute without proper customization and warned that the bill could unintentionally disrupt default rules relied on by hundreds of thousands of existing Virginia LLCs. He suggested that a standalone DAO LLC statute or a new entity type may be a more effective and legally sound path forward.

### **Presentation: Decentralized Autonomous Organizations**

*Professor Hilary Allen, American University*

Dr. Allen discussed how few people use and trust blockchain or cryptocurrency and that blockchain is inefficient and difficult to scale. She noted that many of the records of blockchain-based businesses, such as those of Coinbase, are not maintained on the blockchain. She mentioned several failed uses of blockchain overseas and that currently there are many intermediaries that need to be trusted in order to do business on the blockchain.

### **Other Business**

Members of the Committee discussed regulatory sandboxes and decentralized autonomous organizations. They indicated that they did not have enough information to make a recommendation for a vote and would like to continue the discussions on both topics at a future meeting.

## **Meeting #3 August 19, 2025**

### **July Meeting Recap and Discussion**

*Senator Saddam Salim*

Senator Salim provided background on a spreadsheet he sent to members on blockchain based legislation compiled by the National Council of State Legislatures. Members began discussing regulatory sandboxes and specifically the need to incorporate cryptocurrency incentives when considering a sandbox, particularly in the healthcare sector. Members mentioned other uses for blockchain including deeds being kept on the blockchain. This led to a discussion on potential scams, particularly to the elderly, and how a blockchain-based system with smart contracts could help to prevent deed fraud. The next topic introduced by Senator Salim were DAOs and how Virginia does not have a mechanism for a DAO to operate. He recommended that the committee support legislation for a DAO to be recognized as a new entity, outside of an LLC. The last topic

was on the regulation of Bitcoin ATMs. There was a concern by some members that regulating ATMs may not get at the root of the fraud that occurs. Senator Salim agreed that more discussions should occur and he would have more recommendations at the next meeting.

## **Meeting #4 September 3, 2025**

*Presentation: SafetyDeed*

*Mr. Roger Gordon*

Mr. Gordon presented on his blockchain based company, SafetyDeed. SafetyDeed provides homeowners with protection against deed fraud by putting blockchain based rules into place that are triggered when there is activity initiated on the deed.

### **Other Business**

Senator Salim reviewed four areas where he would like to pursue recommendations for the next meeting. 1. Bitcoin ATMS, 2. Decentralized Autonomous Organizations, 3. Regulatory Sandboxes, and 4. Definitions.

## **Meeting #5 November 19, 2025**

*Presentation: Virtual Currency Kiosks*

*Mr. John Turke, Director of Government Affairs, CoinFlip*

Mr. Turke introduced the concept of cryptocurrency kiosks including what they are, how they are used, and what protections are in place for customers.

### **Bill Review: Virtual Currency Kiosks**

Senator Salim reviewed the key concepts of the draft bill that was distributed. Members discussed concerns they have regarding the bill language and the shortcomings of endorsing the bill in concept but also acknowledging the need for regulation. The State Corporation Commission (SCC) was invited to speak and requested revisions to the bill language that would enable them to more effectively administer the legislation; revisions centered largely on the need to clarify whether it is a licensing or regulatory bill. The Advisory Committee voted to endorse the virtual currency kiosk bill in concept with the understanding that changes will need to be made.

### **Other Business**

Senator Salim asked the SCC to speak to the DAO bill. They explained their role and concerns they have with the language of the bill as it is currently written. Not action was taken as the Committee was no longer in quorum.