Testimony in Support of House Bill 1570
Transformative Economic Efficiency: Procedures for Development and Review of Standards in State Government

Chair, Vice Chair, and distinguished members of the Committee:

My name is Distinguished Professor University of Maryland Dr. Ashwani Gupta, and I have spent several decades as a faculty member and researcher at the University of Maryland, College Park, working at the intersection of engineering systems, public policy, and techno-economic analysis. Throughout my career, I have focused on one central objective: the **optimal integration of mature, proven technologies with emerging advanced technologies to achieve transformative economic efficiency in large-scale public systems**.

Over many years of applied research, implementation, and collaboration with government and industry, I have observed a recurring challenge. State and federal institutions often possess the technical knowledge necessary to improve efficiency, yet lack **institutionalized frameworks that allow validated innovations to be adopted quickly, transparently, and responsibly**. House Bill 1570 addresses precisely this gap.

Purpose of the Bill

House Bill 1570 establishes a **transparent, accountable, and science-based framework for the development and review of standards in Maryland state government**.

From a systems engineering and techno-economic perspective, this legislation embeds a principle I have applied for decades: **Transformative Economic Efficiency**. This principle recognizes that major efficiency gains occur when institutions systematically combine:

- Mature, well-validated technologies
- Advanced and emerging technologies
- Data-driven decision tools
- Independent multidisciplinary expertise

The bill operationalizes these principles by enabling **rapid adoption of validated innovations**, integrating **decision-support tools**, and requiring **periodic reassessment of standards using current technological best practices**. These are precisely the mechanisms that high-performing engineering and research institutions use to continuously improve complex systems.

Fiscal Responsibility

The importance of such a framework is magnified by Maryland's fiscal environment. Current projections indicate **multi-year structural budget pressures approaching $8.8 billion**.

At the same time, administrative processes for updating standards or procedures can take **300 to 400 days or longer**. From a techno-economic standpoint, these delays represent **lost efficiency**

opportunities, because agencies continue operating under outdated standards even when better solutions are already validated.

When governments adopt validated technologies and standards more rapidly, the results are measurable:

- **Hundreds of millions of dollars in preserved or avoided expenditures**
- Significant reductions in administrative friction
- Improved infrastructure and operational performance

In my professional experience, **properly structured innovation-adoption frameworks often produce efficiency gains far exceeding their administrative costs**.

Proven Maryland Leadership

Maryland is already well positioned to lead in this area.

Since 2020—and in many cases for decades prior—**techno-economic standards groups associated with the University of Maryland, College Park have developed scalable, data-driven frameworks** for evaluating and implementing advanced technologies in public systems.

Independent work, including survey analysis by Daniel Mosley and policy engagement with Delegate Caylin Young, has documented the impact of these approaches across several domains:

- Public procurement
- Infrastructure systems
- Operational optimization
- Regulatory modernization

Importantly, several of these frameworks have been **adopted or adapted nationally**, demonstrating that the principles behind Transformative Economic Efficiency can scale beyond a single jurisdiction.

Alignment and International Collaboration

The methodologies reflected in House Bill 1570 are also consistent with internationally recognized standards-development practices.

They align closely with approaches used by the National Institute of Standards and Technology and the National Academies of Sciences, Engineering, and Medicine, both of which emphasize rigorous peer review, transparent data, and multidisciplinary evaluation.

Additionally, ongoing collaboration with partners in the European Union and initiatives such as the Advanced Technology Acceleration Initiative demonstrates that these frameworks are compatible with international best practices.

By adopting this bill, Maryland positions itself not only as a national leader, but also as a participant in **global efforts to accelerate responsible technology adoption in public systems**.

What the Bill Achieves

From a systems and governance standpoint, House Bill 1570 accomplishes four critical objectives:

1. **Prevents costly administrative delays** that impede adoption of validated technologies.
2. **Reduces the risk of reliance on biased or unreviewed expertise** by requiring independent and multidisciplinary evaluation.
3. **Ensures transparency and reproducibility** through accessible data and documented methodologies.
4. **Institutionalizes Transformative Economic Efficiency** within existing governance structures **without expanding bureaucracy**.

Conclusion

In my decades of experience working with large-scale technical systems, the most successful organizations share a common trait: they **institutionalize mechanisms for continuous improvement grounded in science, data, and independent review**.

House Bill 1570 provides Maryland with exactly such a mechanism.

By creating a structured pathway for the rapid and responsible adoption of validated innovations, this legislation strengthens fiscal stewardship, modernizes governance, and enables the state to fully realize the economic benefits of both mature and advanced technologies.

For these reasons, I respectfully urge the Committee to support House Bill 1570.

Thank you for your consideration.