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Frame the Future Thought Pieces

Sustainable Data Requires Governance + Stewardship

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At Lockheed Martin, Intellectual Property (IP) is a sustainability core issue. It falls under our "Elevating Digital Responsibility" priority area together with data privacy and protection and ethical AI principles. These might not sound like the usual environmental or social topics that are generally associated with sustainability. However, the creation and stewardship of data and IP can be a crucial factor in a sustainable world. You can find more on Lockheed Martin's sustainability goals relating to IP and data governance in our 2025 Sustainability Management Plan.

We define data governance and stewardship as:

- Data governance: Deliberate authority, control, and shared decision-making over the management of data assets.
- Data stewardship: Accountability for effective control and use of data and information assets. Data stewards manage data assets on behalf of all stakeholders and must take a holistic perspective.

These are not theoretical concepts. They are implemented through IP protection hierarchies, employee data literacy training, and integration with risk management. Similar to quality or cyber security practices, they cannot be bolted on at the end of a process. Instead, we deputize employees as data stewards and embed data governance throughout development, production, and sustainment.

> "The responsible use of data and intellectual property underlies sustainable enterprises, circular economic practices, and trustworthy Artificial Intelligence. The practical foundation for that responsible use is data governance and stewardship."

This approach helps to enable collaboration both inside and outside the company. One benefit to a collaborative IP approach is greater adherence to circular economic principles. IP systems rightfully protect the value of useful invention, but should not be used to preclude any possibility of recycling or reuse. There is more room for partnership using open standards in a digital development and sustainment environment. Lockheed Martin is using digital thread and digital twin technologies across the total system lifecycle including design, modeling, testing, and maintenance. Rapid innovation is fostered by standardized sharing across

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open interfaces to the benefit of users. As an added bonus, open interfaces are more maintainable and make it easier to extend the life of an asset.

An example of data governance is the sound practice of not allowing retention to be "everything forever." It takes physical resources to develop, store, and use data, although most users do not see the cost. Prudent data stewardship allows for sustainable physical resource use. Curated data may seem like an added restriction, but it improves discoverability, usability, and availability of data to accelerate development of real solutions for people.

Another relevant example relates to Artificial Intelligence (AI). Data stewardship and governance are required to drive responsible IP creation of AI capabilities. AI is created from training data, and it depends on training data integrity and provenance to be trustworthy. As AI becomes increasingly important to society, we must be vigilant against embedded bias and the actions of malicious actors. For AI to create truly valuable IP, the entire process must be ethical, verifiable, and sustainable.

The responsible use of data and IP underlie sustainable enterprises, circular economic practices, and trustworthy AI. The practical foundation for that responsible use is data governance and stewardship. Data and IP reuse is not constrained like tangible resources. It only makes sense that as we move toward a sustainable and circular economy, we rely more on a responsibly governed unlimited resource.