Federal Register Notice: 89 FR 51554, [Federal Register :: Networking and Information Technology Research and Development Request for Information on Digital Twins Research and Development](#), June 18, 2024**.**

Request for Information on the National Digital Twins R&D Strategic Plan

Polybiomics

RFI Response: Digital Twins R&D Plan

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Submitter agrees with proposed plans from the Artificial Intelligence (AI) to Standards outlines. Below please find revisions in brackets on:

*Sustainability: ...develop approaches for the design, development, and deployment of Digital Twins; the ability to create interoperable Digital Twins with evolving technology and standards [towards an accurate, predictive scale-up and a sustainable, flexible economy. Establish innovation hubs and consortia to facilitate knowledge sharing, enhancing collective effectiveness, and forming joint public-private ventures across various sectors].

*VVUQ: Develop Rigorous Methods for Verification, Validation, and Uncertainty Quantification for Digital Twins: Possible focus areas: foundational and cross-cutting methods as well as domain specific; integration of VVUQ into all elements of the full digital twin ecosystem. [Digital twin ecosystem of living organisms, require abundant, often heterogeneous, and dynamic data for proper adaptation, thus VVUQ for such ecosystems highly depends on data sources, stepwise optimizations, and resilience of the training environment for accurate outcome predictions].

*Workforce: Cultivate Workforce and Training to Advance Digital Twin Research and Development: Possible focus areas: diverse talent recruitment; incentivize cross-disciplinary STEM research programs across educational institutions, [accelerate the new science of hybrid DT-human teaming by developing new metrics for human-DT teamwork performance evaluation, and encourage talented individuals by offering national cross-disciplinary fellowships on topics of substantial user need].