# THE INTEGRATED TECHNOLOGY LANDSCAPE OF THE FUTURE

## The Endless Frontier Act

Senators Chuck Schumer (D-NY) and Todd Young (R-IN) introduced the bipartisan Endless Frontier Act on April 21, 2021 with 12 bipartisan Senators. Representatives Ro Khanna (D-CA) and Mike Gallagher (R-WI) with 5 bipartisan cosponsors introduced the House companion bill.

This is an initiative to solidify the United States' leadership in scientific and technological innovation through increased investments in the discovery, creation, and commercialization of technology fields of the future. The bipartisan legislation further targets support to ensure new research investments translate into new American companies, manufacturing and high-tech jobs, and opportunities for regions across the country to become global centers of emerging technology industries.

The bill provides $100 billion over 5 years to a new Technology Directorate in the renamed NSF - the National Science & Technology Foundation - and creates a new Deputy Director for Technology. The measure also creates new Regional Technology Hubs funded by the Department of Commerce that would attract new investment in the area for advancing innovation capacity through regional workforce and infrastructure development. These Regional Technology Hubs would be funded at $10 billion over 5 years.

Additionally, the bill establishes a new Supply Chain Resiliency and Crisis Response Program at the Department of Commerce with the national security mission to monitor supply chain vulnerabilities and provide investments to diversify supply chains in critical products to the nation's security.

The primary aims of this bipartisan and bicameral bill are to fund research, technology transfer, and workforce in 10 "key technology areas" defined in the bill.

1. Artificial intelligence, machine learning, and other software advances
2. High performance computing, semiconductors, and advanced computer hardware
3. Quantum computing and information systems
4. Robotics, automation, and advanced manufacturing
5. Natural or anthropogenic disaster prevention or mitigation
6. Advanced communications technology
7. Biotechnology, medical technology, genomics, and synthetic biology
8. Cybersecurity, data storage, and data management technologies
9. Advanced energy, batteries, and industrial efficiency
10. Advanced materials science, engineering, and exploration relevant to the other focus areas

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U.S. manufacturing innovation and competitiveness is further strengthened with over $2.4 billion in investment to enhance and expand the Manufacturing USA network. A mandate is also included to develop a strategy on national competitiveness and ingenuity in science, research, and manufacturing to support the national security strategy. This national competitiveness strategy will help guide priorities for federal research spending, the Supply Chain Resiliency and Crisis Response Program, and other key federal investments and initiatives.

The Endless Frontier Act will be the centerpiece of a legislative package aimed at bolstering U.S. competitiveness with China in critical technology sectors. Senator Schumer has said he wants the bill marked up in Committee and, on the floor, as soon as possible- as early as the end of April.

The Endless Frontier Act bill text can be found HERE and a summary can be found HERE.

## XRA's Interest

Immersive technologies will play a preeminent role in achieving our national goals related to economic competitiveness, domestic manufacturing, national security, healthcare, education, and workforce development – and will serve as a catalyst for advanced development in other critical technology fields as well. As a natural member of the cohort of technologies highlighted in the EFA, immersive technologies should be included in the bill.

## Recommended Amendment

Immersive technologies are a critical and inseverable part of the technology ecosystem of the future. XR will help to advance breakthroughs in advanced manufacturing, advanced communications, spatial computing, and biometrics. As the next major computing platform, immersive technology is also part of a cohort of technologies that includes artificial intelligence and quantum computing – and that triad is expected to dramatically alter the way we learn, collaborate, recreate, manufacture, and provide essential human services. Because of the magnitude of immersive technologies' coming impact, as well as its synergistic effect on the development of the adjacent technologies named in the EFA, we are urging Congress to amend the bill to include immersives as a key technology focus area.

*"Immersive technologies will be a critical catalyst in shaping the economies and communities of the future. According to Goldman Sachs, the AR/VR industry will reach $80 billion by 2025."*