Special Notice
Information Processing Techniques Office

Future Program: Intrinsic Market Resilience (IMR)

DARPA-SN-26-110

August 11, 2026

PROGRAM ANNOUNCEMENT

The purpose of this Special Notice is to provide public notification of additional research areas of interest to the Defense Advanced Research Projects Agency (DARPA) Information Processing Techniques Office (IPTO), specifically for the forthcoming Intrinsic Market Resilience (IMR) program by IPTO Program Manager, Matthew Wilding.

If released, the solicitation will be made available at https://sam.gov.

PROGRAM BACKGROUND AND OBJECTIVES

The evolution of markets from physical trading floors to interconnected, electronic venues has introduced new speed, transparency, and efficiency, but has also created new attack surfaces and systemic risks. Modern markets, which host trading for everything from equities and bonds to energy and cloud computing resources, can be manipulated in ways unanticipated by their designers. The 2010 United States Equity market "flash crash" and the 2000-2001 California energy crisis demonstrated how weaknesses in a market's public interfaces could have dramatic consequences. Similar design issues in today's complex, interacting market systems could be used to cause economic damage, which the IMR program technology seeks to prevent.

The IMR program aims to develop repair methods to protect essential economic sectors against devastating attacks that exploit the public interfaces of modern markets. Current legal and regulatory protections focus on deterring profit-seeking manipulation and ensuring compliance, but they do not sufficiently protect markets from adversaries aiming simply to cause disruption. The IMR program seeks to address this gap by developing the tools to automatically model market designs, identify hidden weaknesses, and recommend and analyze repairs on the market models to make markets fundamentally more resilient to attack.

IMR aims to combine Large Language Model (LLM)-based automation with rigorous modeling and analysis to identify remediations for market weaknesses. The program will develop formal notations to precisely describe how markets operate and coordinate, creating machine-analyzable models from informal descriptions like regulatory filings and technical specifications. Against these models, IMR will formulate and assess "resilience conjectures" - mathematical statements about desirable market properties, such as the inability for actors to manipulate prices without risking loss.

By automatically analyzing these conjectures, the program aims to prove that a market design is resilient in specific ways or, if it is not, to generate a counterexample that illustrates a concrete weakness. These counterexamples will then be used to refine the conjectures and, ultimately, to recommend and confirm specific repairs to the market's design. This approach is intended to provide a capability to protect U.S. markets against adversaries who wish to cause chaos, ensuring the stability of both civilian and military critical resources that rely on modern market mechanisms.

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NOTE: This Special Notice does not constitute a formal solicitation for proposals. This notice is issued solely for information and program planning purposes and is not a Request for Information (RFI). DARPA will not accept any submissions against this notice. Interested parties to this notice are cautioned that nothing herein obligates DARPA to issue a solicitation.

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