CHANGING WHAT'S POSSIBLE

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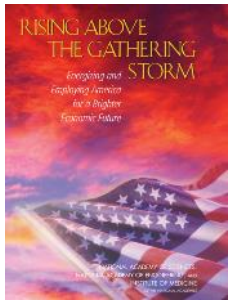
ARPA-E

Thursday, November 7 2019 | Newark, NJ

History of ARPA-E

In 2007, The National Academies recommended Congress establish an Advanced Research Projects Agency within the U.S. Department of Energy to fund advanced energy R&D.



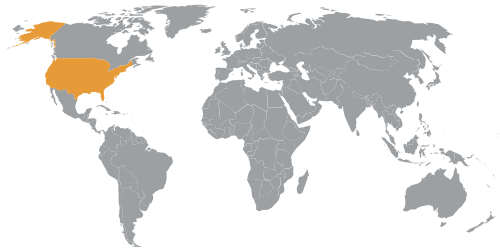
2007

Rising Above the Gathering Storm **Published** - warning policymakers that U.S. advantages in science and technology had begun to erode

America COMPETES Act **Signed** – authorizing the creation of ARPA-E

American Recovery & Reinvestment Act **Signed** – Providing ARPA-E its first appropriations of $400 million, which funded ARPA-E's first projects

2009



2018

800+ Awards
49 Programs

Current Funding:
$353M
(FY18)

ARPA-E Mission

Mission: To overcome long-term and high-risk technological barriers in the development of energy tech

What Makes an ARPA-E Project?

IMPACT

- High **impact** on ARPA-E mission areas
- Credible path to market
- Large commercial application

TRANSFORM

- Challenges what is possible
- **Disrupts** existing learning curves
- Leaps beyond today's technologies

BRIDGE

- Translates science into breakthrough technology
- Not researched or funded elsewhere
- **Catalyzes** new interest and investment

TEAM

- Comprised of best-in-class people
- Cross-disciplinary skill sets
- Translation oriented

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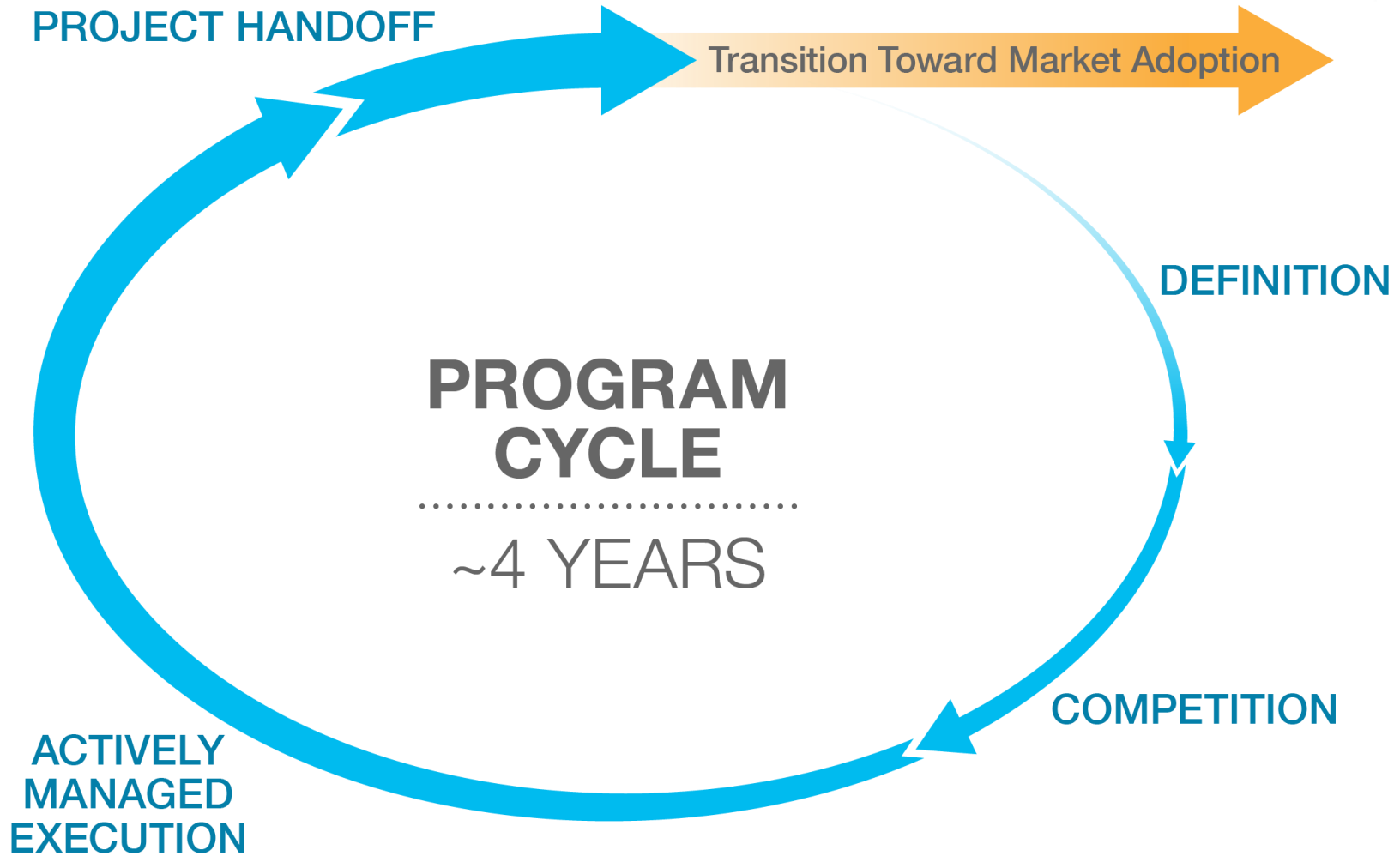
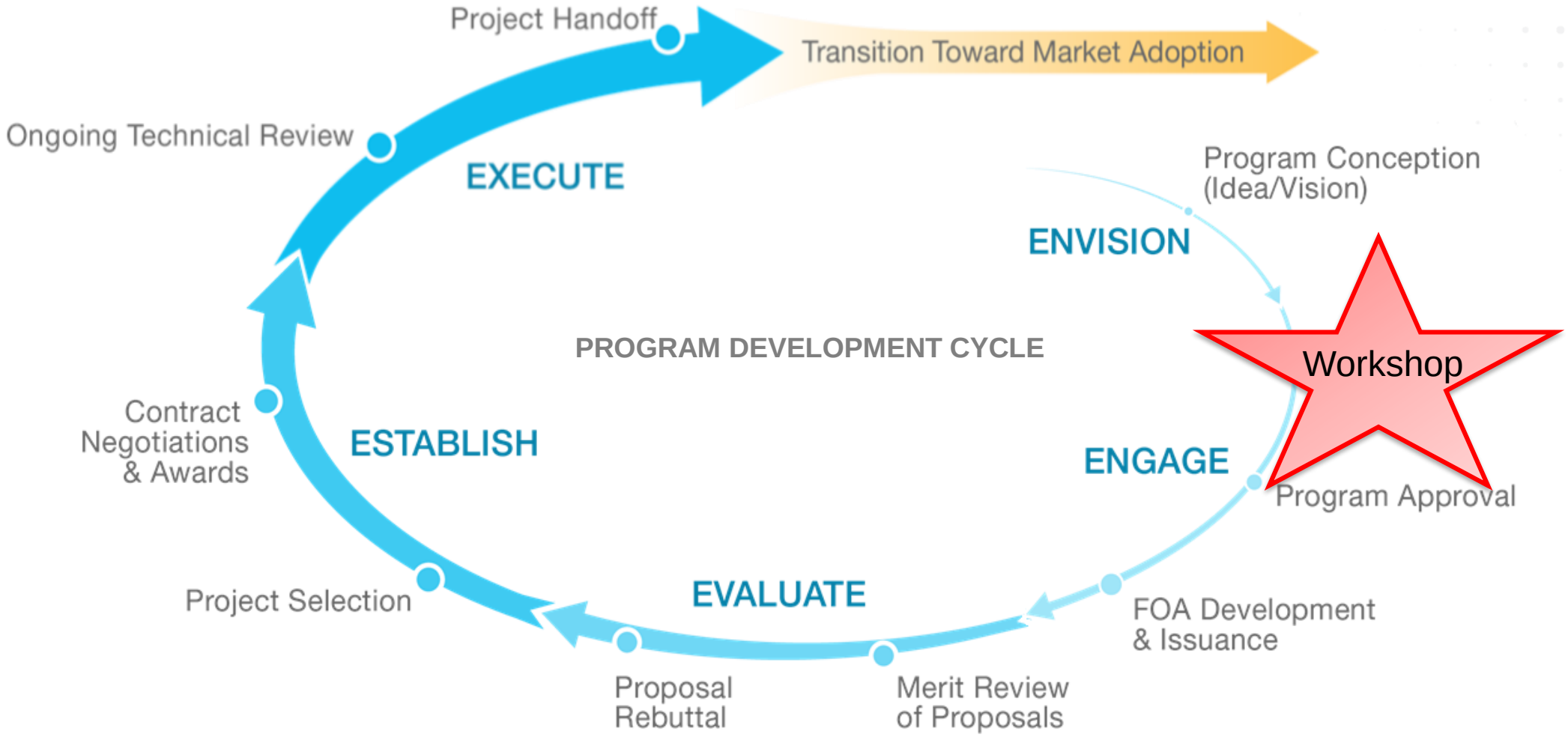
Technology Acceleration Model



Technology Acceleration Model



Tech To Market Approach

SCOPE

Provide strategic market insights necessary to create innovative, commercially relevant programs

MANAGE

Manage project teams' T2M efforts through T2M plans and jointly developed milestones

ADVISE

Support project teams with skills & knowledge to align technology with market needs

PARTNERSHIPS

Engage third-party investors and partners to support technology development towards the market

ARPA-E Program Portfolio

	ELECTRICITY GENERATION & DELIVERY	EFFICIENCY	TRANSPORTATION
Active	INTEGRATE, GRID DATA, IONICS, MOSAIC, GENSETS, NODES, ALPHA, CHARGES, FOCUS, MEITNER, DAYS	SENSOR, CIRCUITS, PNDIODES, ENLITENED, SHIELD, ROOTS, BREAKERS, MONITOR, ARID, DELTA, HITEMMP	MARINER, REFUEL, NEXTCAR, TRANSNET, TERRA, RANGE, REMOTE
Alumni	REBELS, GRIDS, GENI, HEATS, SOLAR ADEPT, IMPACCT	SWITCHES, METALS, BEETIT, REACT, ADEPT	MOVE, PETRO, ELECTROFUELS, AMPED, BEEST

OPEN 2009, 2012, 2015 & 2018 Solicitations
Complement Focused Programs

ARPA-E Impact Indicators

Since 2009 ARPA-E has provided

$2 billion

in R&D funding to more than **800 projects**

145 Projects have attracted more than

$2.9 billion

in private-sector follow-on funding

76 projects

have formed **new companies**

131 projects

have **partnered with other government agencies** for further development

2,489

peer-reviewed **journal articles** from ARPA-E projects

346 patents

issued by U.S. Patent and Trademark Office

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CHANGING WHAT'S POSSIBLE

As of March 2019

ARPA-E Could be the Hallmark of Your Career

PROGRAM DIRECTOR

- ✓ Program development
- ✓ Active project management
- ✓ Thought leadership
- ✓ Explore new technical areas

TECHNOLOGY-TO-MARKET ADVISOR

- ✓ Business development
- ✓ Technical marketing
- ✓ Techno-economic analyses
- ✓ Stakeholder outreach

FELLOW

- ✓ Independent energy technology development
- ✓ Program Director support
- ✓ Organizational support

CONTRIBUTE TO A BETTER ENERGY FUTURE

COLLABORATE WITH OTHER EXPERTS

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