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Project OVERCOME

Innovation in Technical Design and Community Partnerships

Lee Davenport, Director of Smart Communities

www.us-ignite.org/program/overcome

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- Public-private partnership
- 501(c)(3)
- Launched at White House in 2012 (with strong NSF support)

Our Mission

Accelerate the creation of innovative apps and services that leverage advanced networking to build the foundation for smart communities

US Ignite Capabilities

- Deliver timely, high-impact results as a “high-tech” non-profit:
  - Community-wide engagement, leveraging discrete time-bound projects
  - Sustainability-focus via commercialization or cross-community scale up
  - Links to real funding sources and best practices
- Bridge multiple constituencies as a neutral “translator” to address community challenges
- Provide large-scale project management expertise
- Deliver technical expertise supported by community, corporate, startup, Federal, university experts
- Source, secure, and distribute corporate funding and donations to support smart community efforts

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US Ignite Program Areas

Capacity Building and Technical Assistance for Communities

- Smart Gigabit Communities, Novel broadband access, Startup mentoring, Transition to Innovation, Forum workshops, Annual Summit

Prizes and Challenges for Innovation

- Facebook AR Challenge, NIST AR public safety, Commonwealth Cybersecurity Initiative (CCI)

Testbeds for Research

- PAWR 5G testbeds (4), Smart Base testbeds (2)

Enhanced Data for Smart Cities

- Economic Indicator and DoD Data Dashboards

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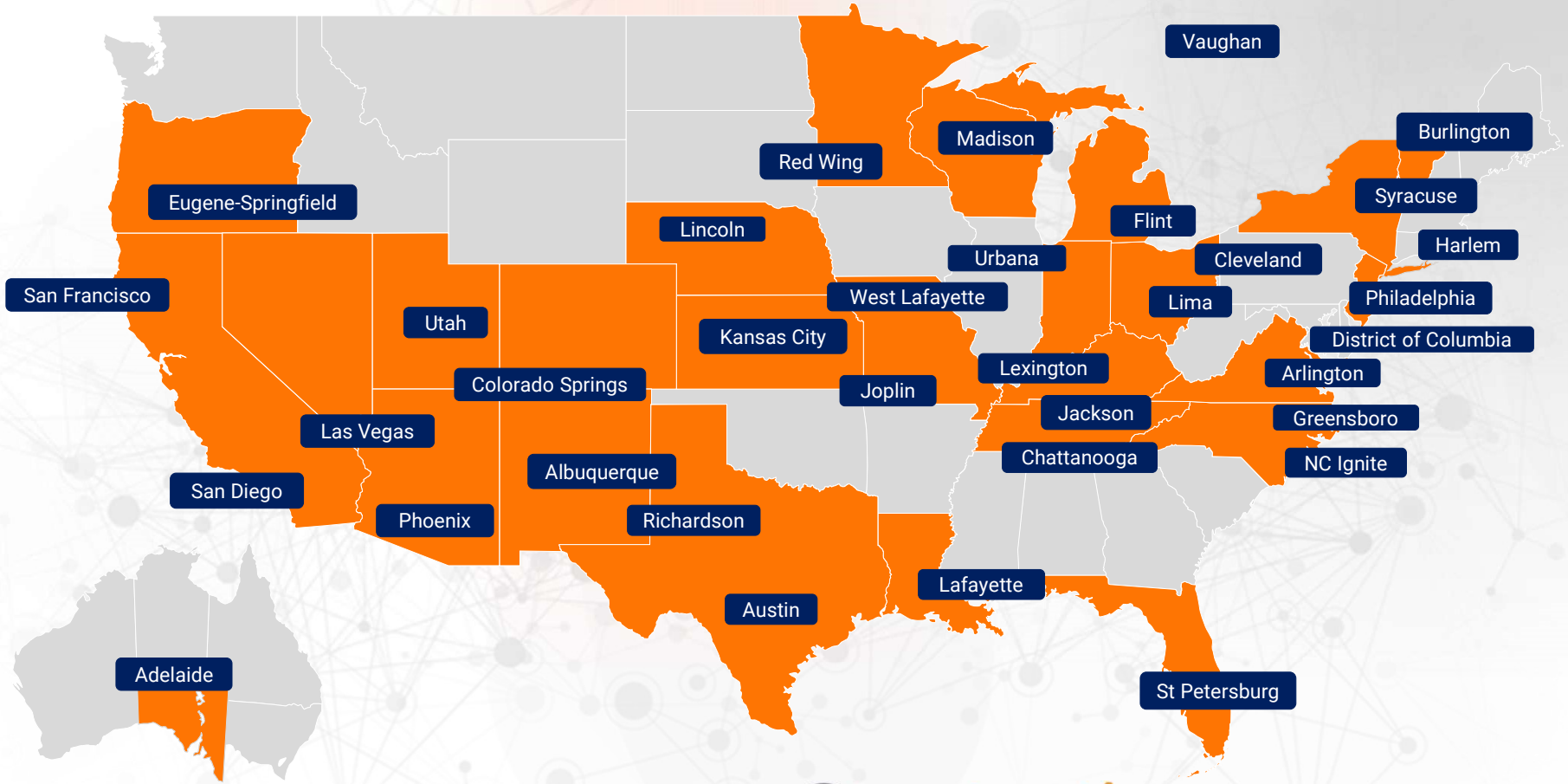

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SMARTGIGABITCOMMUNITIES

Setting the Stage for OVERCOME

Broadband Access

- Millions without access to the Internet at home

Partnerships

- New research and community partnerships illustrate powerful ecosystem

COVID

- Pandemic highlights use cases

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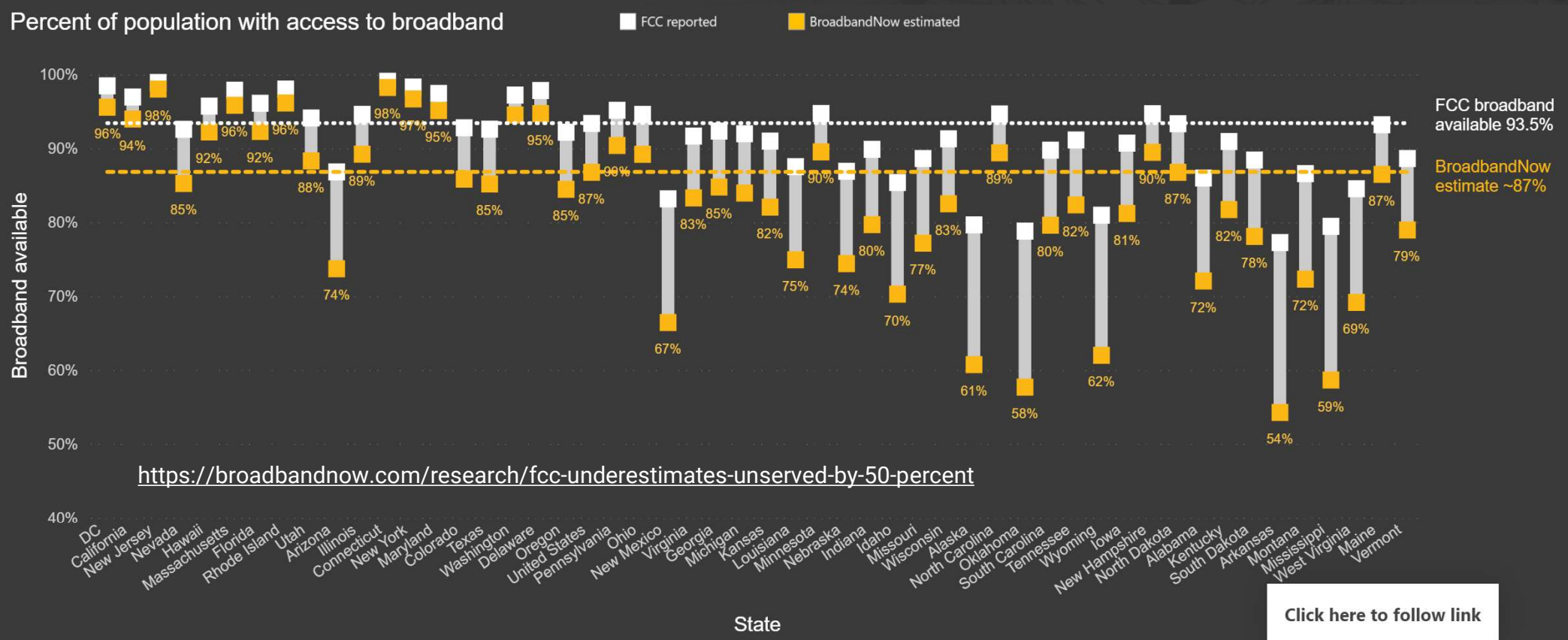
FCC reports broadband is not available to 21.3M people, BroadbandNow indicates ~42M do not have access



https://broadbandnow.com/research/fcc-underestimates-unserved-by-50-percent

Click here to follow link

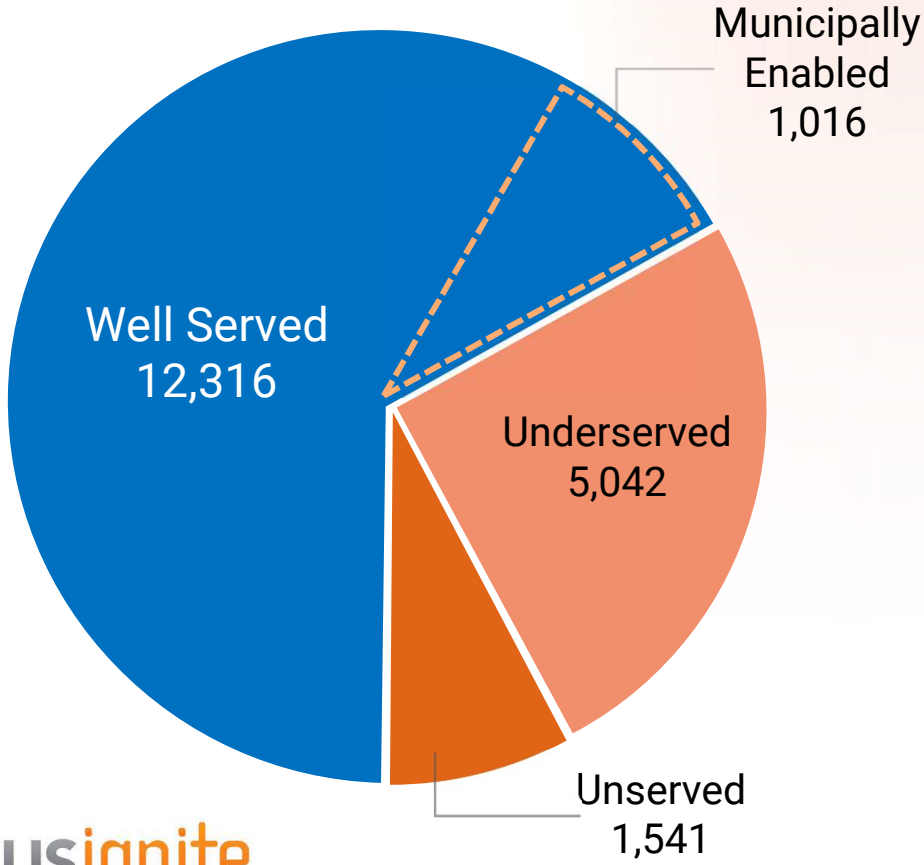
Percentage of population living in urban areas, 2010, from Iowa State University
Population (millions) served by terrestrial broadband internet from FCC 2019 Broadband Deployment Report.
Population (millions) served by terrestrial broadband internet according to BroadbandNow Research 2020 Study.

Click to sort by: State | BroadbandNow estimate | Percent urban

Source: FCC 2019 Broadband report and 2020 BroadbandNow study

BROADBANDNOW®

Partnerships show promise but leave many unconnected



92% (12,316) of well-served cities have seen private ISPs deploy high speed internet independently, **with the remaining 8% (1,016) benefiting from municipally enabled programs.**

These municipally enabled programs offer **lessons for closing the digital divide in unserved and underserved areas**

https://www.us-ignite.org/news/

Schools close due to the coronavirus, many U.S. students face a digital "homework gap"

HH with children ages 6 to 17	No high-speed internet at home
Annual income > $75,000	6%
Annual income < $30,000	35%

Pew Research Center, March 16, 2020

https://www.pewresearch.org/fact-tank/2020/03/16/as-schools-close-due-to-the-coronavirus-some-u-s-students-face-a-digital-homework-gap/

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Sample innovations in network strategies

Wireless

- 5 GHz Unlicensed radio band Line-of-Sight to a Single Point <12 Miles
- 3.5 GHz CBRS GAA (unlicensed) or PAL (licensed)
- 17-30 GHz Low-Earth Orbit (LEO) Satellite
- 470-698 MHz TV White Space Wireless (aka TVWS and Super-WiFi)

Design

- Community Mesh Networking
- Rooftop Wi-Fi
- Unlicensed 60 GHz and 90 GHz rooftop-to-rooftop at gigabit data rates
- Free-Space Optical rooftop-to-rooftop at gigabit data rates
- Education Broadband Service (EBS); Private LTE Waivers

Wired – Lay/String Your Own Fiber

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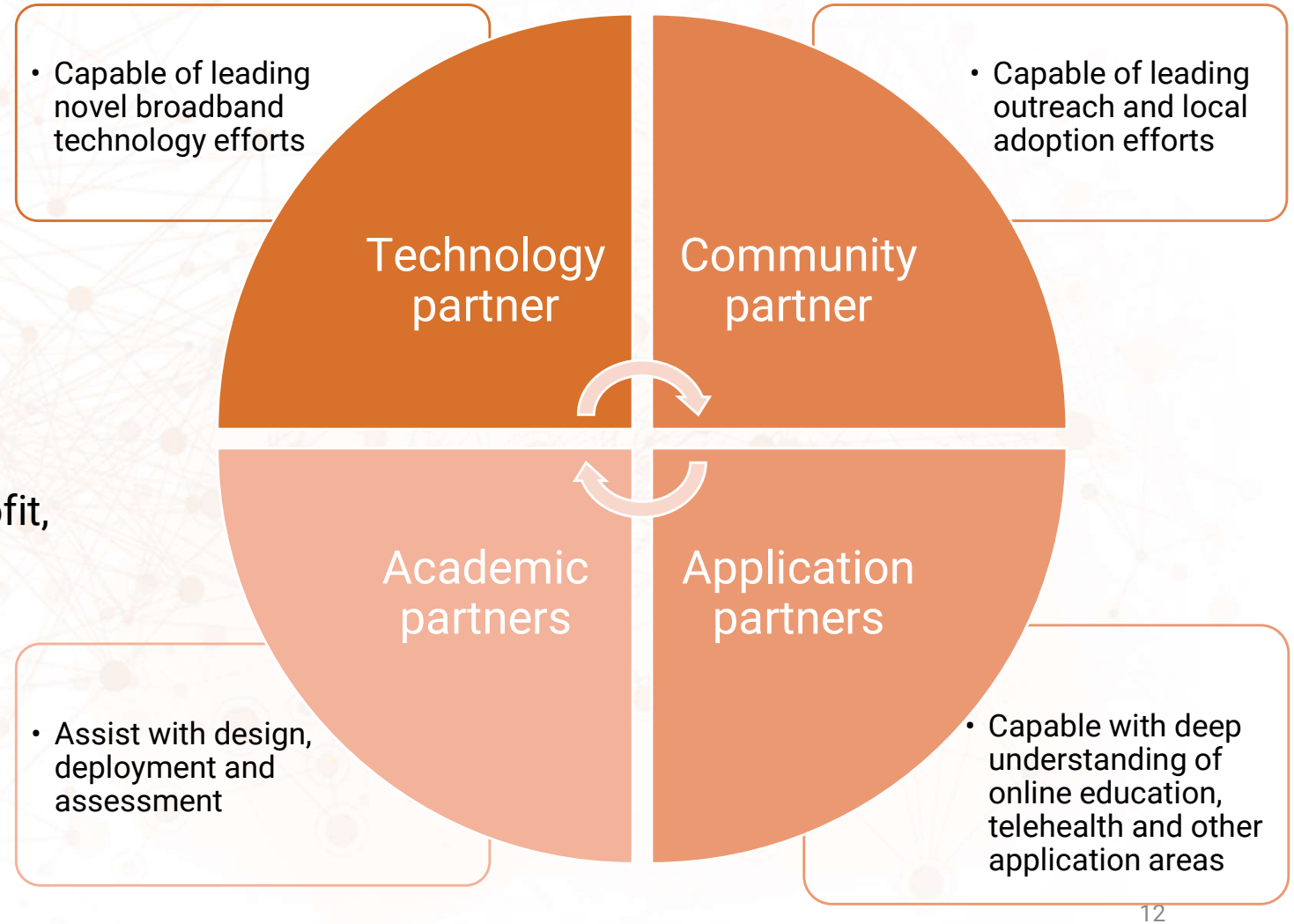
Partnership by Design

A project lead may be affiliated with a nonprofit, municipal, or an academic institution



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Balanced mix of communities and technologies

- Density
- Demographics
- Regions
- Housing types
- Collaborations
- Technical approaches

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US Ignite Project Office Resources

Scan	Identify resources and current/innovative technology and partnership frameworks
Solicit	Design and distribute RFP, manage applicant inquiries fairly
Select	Assess projects' and obtain NSF concurrence for 5 projects, augment with additional funding/in-kind contributions
Launch	Award and manage five $300,000 proofs-of-concept
Oversee	Hold regular communication over 12-month project (3/1/21 → 2/28/22)
Share	Document and publish approaches to expand broadband access, replicate projects where possible

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Change requires an evolution in thinking

Necessary

- What are relevant poverty statistics?
- What is prevalent broadband service expectation for target area?

Well designed

- Do the project plans, budgets, risk, sustainability plans indicate an approach likely to meet community challenge?
- What local match and support have been secured?
- What documentation demonstrates broad levels of support?

Feasible

- Is the technical innovation feasible as designed, affordable on this budget, and valuable to the field?
- Do the teams possess the personnel and qualifications to deliver them?
- What are costs per household connected?

Community Fit

- Is the project's design as written sufficient to meet the need of the community?
- If using municipal assets, can you preserve competition with neutral hosting and shared infrastructure

Partner Capability

- Is there current or existing capacity within the partnerships to deliver desired outcomes?
- What has been learned from challenges?

Measurable

- What kind of data will show progress addressing technical and social change?

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Thank you

Lee Davenport, Project Director

View resources at: www.us-ignite.org/program/overcome

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"Any opinions, findings, conclusions or recommendations expressed in this material are those of the author(s) and do not necessarily reflect the views of the Networking and Information Technology Research and Development Program."

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