



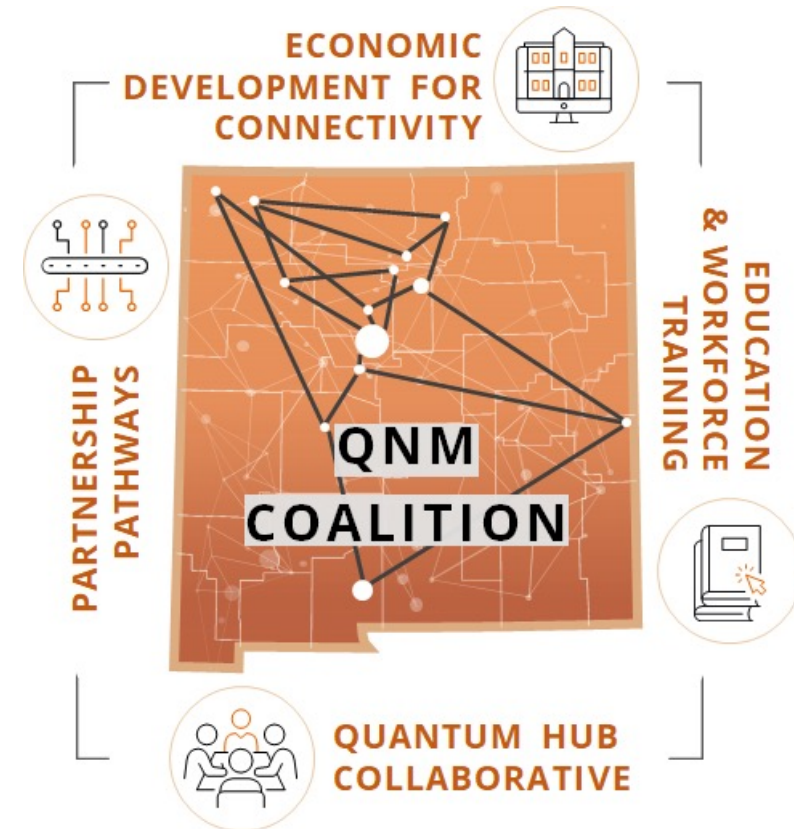
| QUANTUM NEW MEXICO >
New Mexico is a Quantum State

Quantum New Mexico Coalition: New Mexico's Quantum Future

4/1/22

Origins of the Quantum New Mexico Coalition

- The Quantum New Mexico Coalition (**QNM-C**) vision arose in response to the Economic Development Agency Build Back Better (EDA BBB) funding opportunity in Fall 2021
- **Aspiration** was to combine the **full stack of NM talent** and set NM on a path to displace Silicon Valley with the Quantum Rio Grande Valley
- Requires a coalition of NM's national labs, academia, industry, economic development groups, and non-profits



Proposed EDA BBB Phase 1 Members

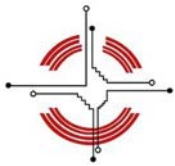
Support from ~30 institutions for QNM-C's BBB proposal was seen from across the state.



Supporting Technology Transfer and Catalyzing Economic Development at the University of New Mexico






Sandia National Laboratories



QNM-C Areas of Interest and Impact

Bringing stakeholders together to build the QIST Ecosystem in NM

QNM-C THRUST AREAS	 Science & Engineering R&D		 QIST Education & Workforce		 Enabling Infrastructure & Resources	
FOUNDATIONAL ASSETS	CQuIC (UNM), CHTM (UNM), MESA (Sandia), QPL (Sandia), CINT (Sandia/LANL), etc.		UNM College of Arts and Science, UNM School of Engineering, Quantum Summer CAMP, Internship programs, etc..		Academic and National Lab programs, state and local economic development offices, national labs, etc.	
POTENTIAL FOCUS AREAS	<ul style="list-style-type: none">• Broaden basic and applied research programs• Support QNM partner R&D priorities and strategies• Joint proposals		<ul style="list-style-type: none">• Support growing QIST academic programs• Develop new QIST pathways across all education levels• Identify opportunities for Internships, fellowships, and apprenticeships		<ul style="list-style-type: none">• Support QIS industry engagements• Establish unified economic development strategy• Create resource for QIS business & policy coordination• Build QIS Infrastructure	

Thrust 1: Science & Engineering R&D

- Integration of quantum technology research
 - Information Science
 - Materials Engineering
 - Advanced Manufacturing
 - Novel Applications
- Highlight connections to quantum adjacent fields
 - Art (e.g. visualizations, displays, and security)
 - Film and Digital Media (e.g. CGI and communication)
 - Bioscience and Health Science (e.g. novel sensing and diagnosing)
 - Agriculture and Climate Change (e.g. sensing and predicting)
 - Energy and water use (e.g. less power = less water)



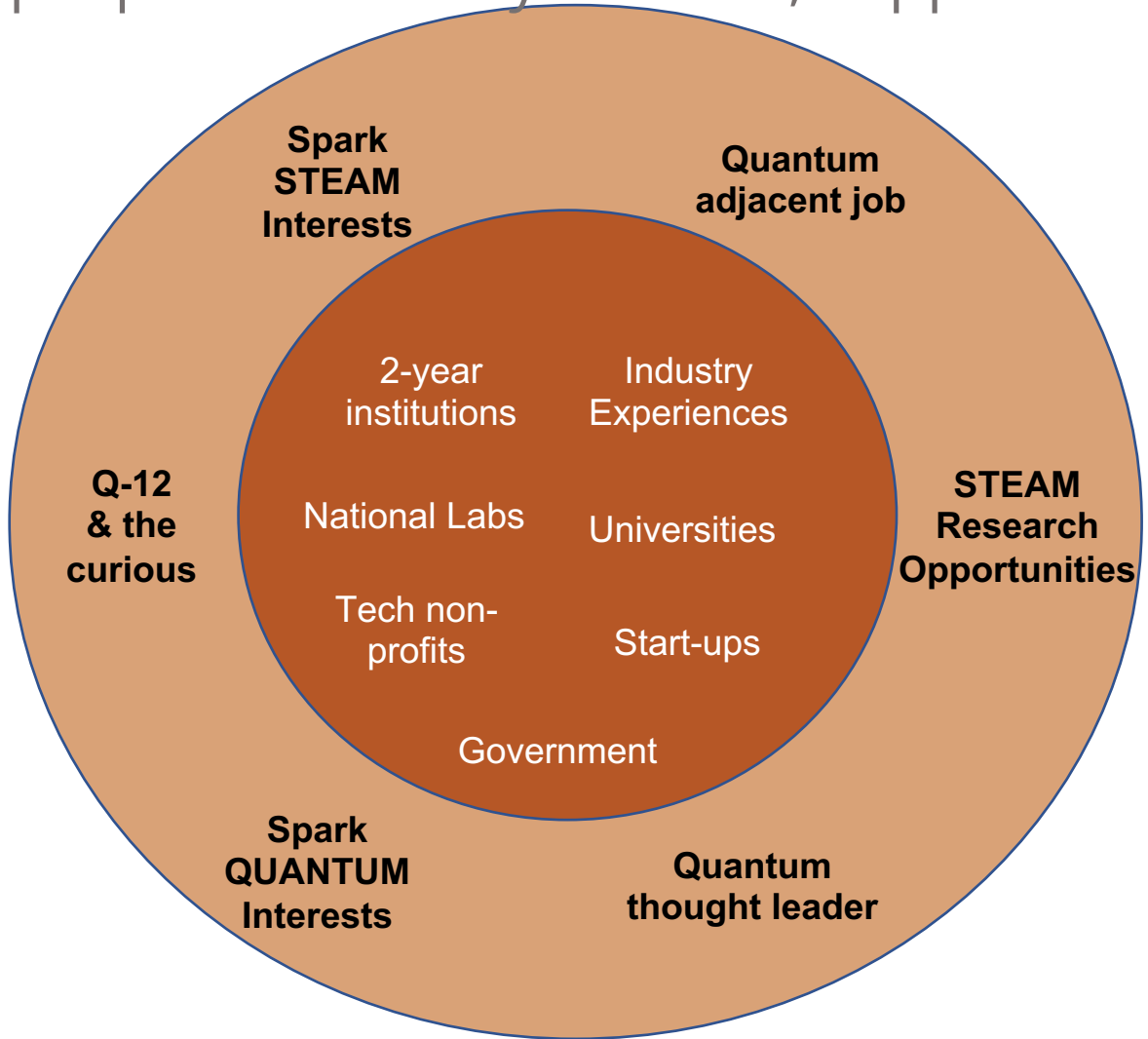
THRUST 2: Education and Workforce

- All success requires more people
 - Great jobs are waiting and New Mexicans want them
 - We must provide the pathways and networks
- All success requires greater diversity
 - Brilliance is everywhere and diversity is New Mexico's strength
 - This is why we will continue to be thought leaders
- Greater equity and access will get us there
 - All of our highlighted alumni and our current students took different paths into and out of our programs



THRUST 2: Continued

- TURN PATHWAYS INTO NETWORKS
 - Multiple points of entry and exit, support what we heard yesterday



THRUST 2: Continued

- DEVELOP PATHWAYS
 - Educational
 - Cross-institutional programs
 - Pre-Quantum and quantum adjacent – large base of students
 - Career development: retraining and certificates
 - Quantum thought leaders
 - Entrepreneurial
 - Expand existing training and assistance programs
 - Create new MS in Business Creation and Scaling – take leave, get a degree
 - Develop new models for assisting start-ups, lower cost and expertise barriers
 - Partnerships
 - Industry internship programs
 - QIST workforce specific pathways
- TURN PATHWAYS INTO NETWORKS
 - Multiple points of entry and exit



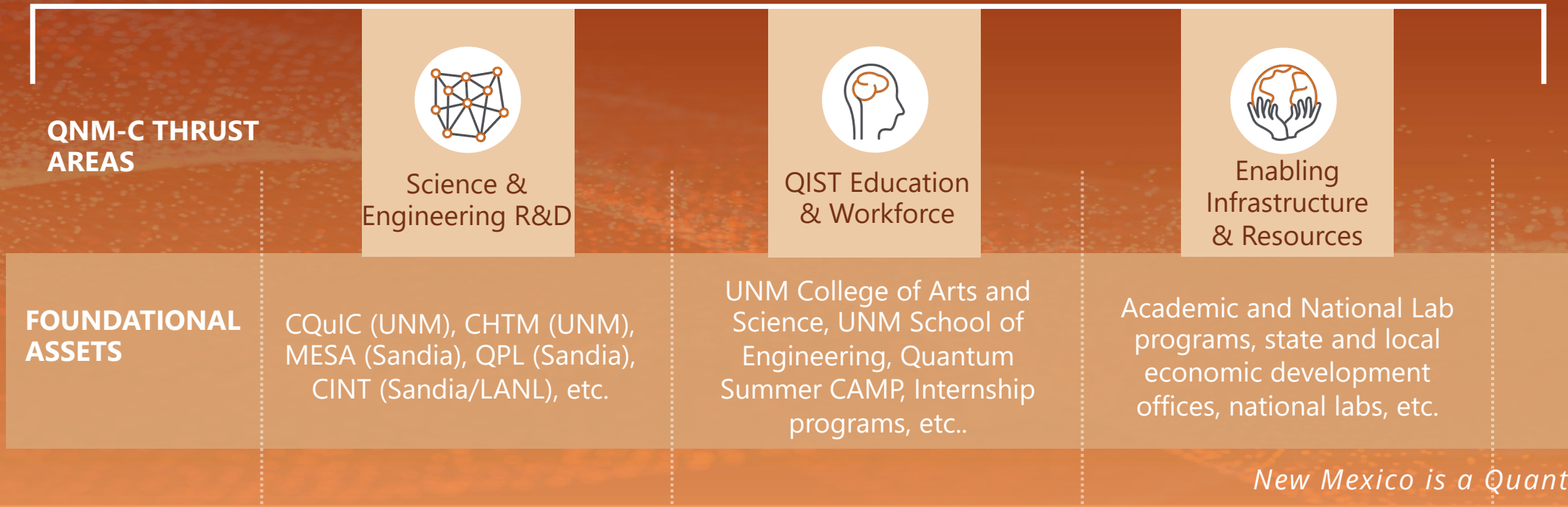
THRUST 3: Enabling Infrastructure

- Broadband to enable access
 - Assist with large State and Federal investments
 - Bring training and knowledge with connectivity for equity
- High performance computing capabilities
 - Partnering with industry
 - Developing state-wide resources
 - Computational power, Data commons
 - Backbone for sensor networks
- Manufacturing infrastructure
 - Build and supply the quantum pieces everyone will need
- Physical hub and spokes
 - Shared spaces for collaborative research, community engagement, quantum-adjacent connections, and economic development



BBB unfunded, so what is the Coalition concept now?

Bringing stakeholders together to build the QIS Ecosystem in NM



- **Still Work to Build the Quantum New Mexico Coalition**

- Create a world class quantum science collaborative technology hub in NM
- Formalize a coalition structure
- Help build a diverse, equitable, accessible, and inclusive quantum ecosystem
- Focus efforts across thrust areas spanning from Science and Engineering through Economic Development



What will we be doing the rest of the year?

QNM-C will be hosting a number of events to meet our goals



- QNM Technical Exchange Workshop (May-June 2022)
 - Learn about the areas of interest and expertise from researchers across the state



- Quantum 101 Briefings (June 2022 – July 2022)
 - Help educate the broader community about QIS



- Building the Next Generation Quantum Workforce (July-August 2022)
 - Identify current state of academic programs and discuss ways to strategically and collectively support QIS programs



- Building a Regional Quantum Cluster (September-October 2022)
 - Identify practical ways to kickstart a quantum cluster in the state

Getting involved

- QNM-C is in the early stages of establishment, and is looking for partners to help lead QNM-C efforts
- We would love to hear feedback on how to:
 - Ensure QNM-C can build a diverse and inclusive community
 - Create a sustainable program that supports partners across the state
 - Better engage and support QIS industry
 - Anything else you can think of!
- To get engaged or learn more about QNM-C, reach out to:
 - David Hanson, Interim Assistant Vice President for Research, UNM: dthanson@unm.edu
 - Jake Douglass, Quantum Business Development Lead, Sandia: jsdoug@sandia.gov



Questions?