

# Research coordination function under NGA



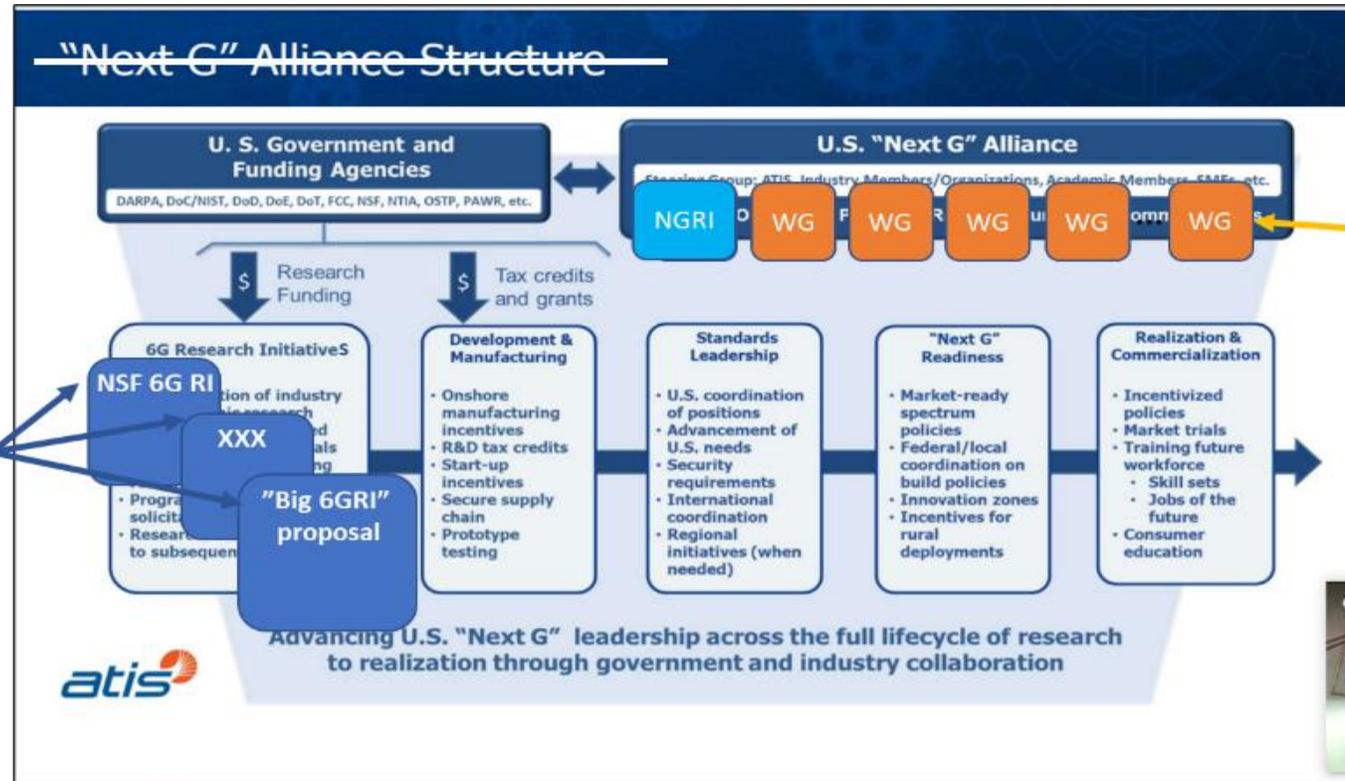
ATIS NGA  
FMG meeting March 3, 2021

# NGA and push/pull strategy



## Multiple research projects/initiatives "pull"

- Using several funding mechanisms
- Allowing for different partners per project/initiative
- Each initiative with its own governance as per funding agency process
- Early start by NSF funded project with in-kind from group of vendors
- Allows for bigger proposals when funding comes available



Groups External to Next G Alliance



Next G Alliance Internal WGs

## NextG Alliance "push"

- Delivers strategies, roadmaps, recommendations, lobbying, knowledge - to government and ecosystem
- Liaisoning role towards the research initiatives.
- Keeps record of ongoing research initiatives and provides guidance
- NGA tech companies engage both in the definition "Push" and the execution research "pull" to ensure sync

# Landscape



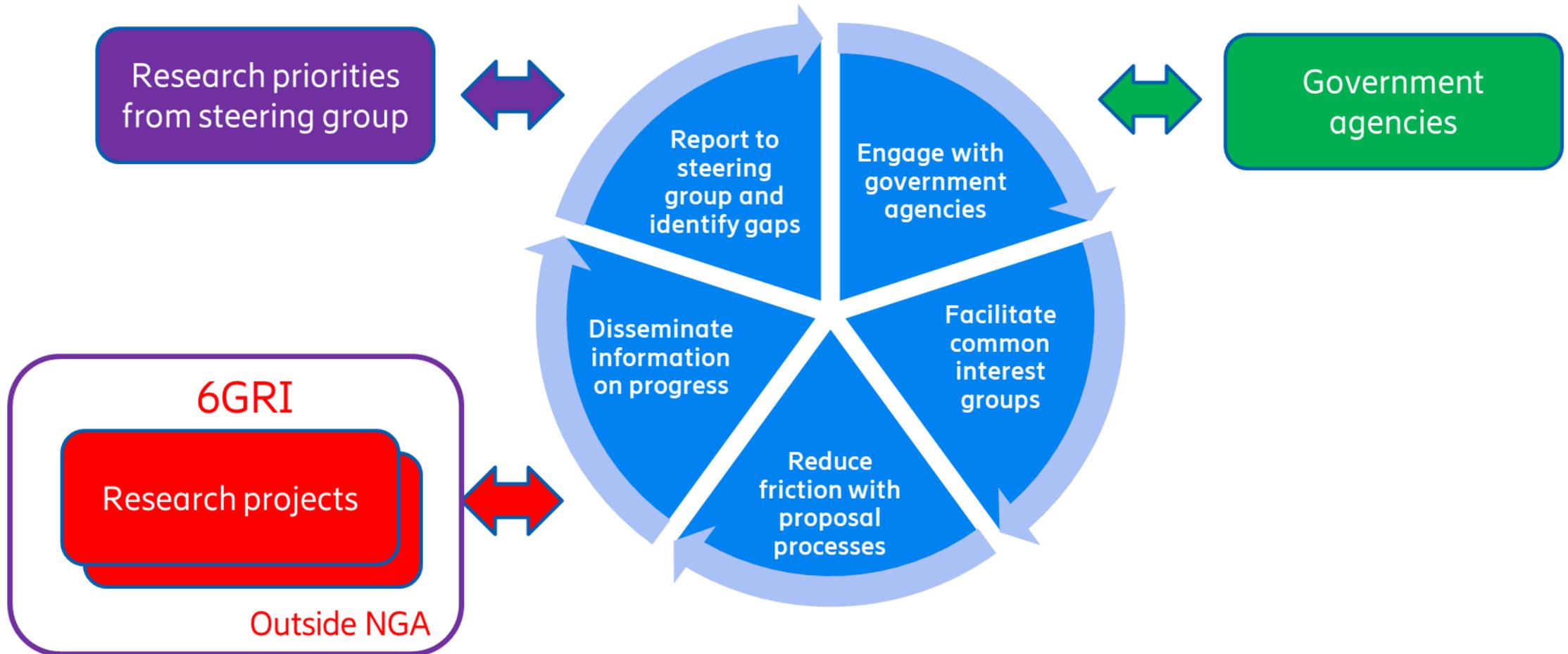
- The recent focus on US 6G research activities, especially in the context of NGA has put the spotlight on the complicated US research landscape.
- Many government agencies and departments are present in this landscape.
- NGA has to be adept at navigating this complicated landscape and leverage its enormous resources to spur US 6G research.
- Our ambition is to spur academic research and industry-academia collaborations in the direction of 6G, fueled by government funding.
- But we need to work with the established funding mechanisms on their own terms.

# WGTD and operational role for pull



- The pull part is about reaping the benefits of the lobbying effort, and translating it into funding proposals leading to research projects that deliver on the 6G vision.
- Here we assume that on one end the steering group owns the 6G research priorities, and on the other end the 6G Research Initiative (6GRI) consists of the actual research projects, which take place outside of NGA.
- We propose that the WGTD will have the operational role for pull on behalf of NGA, ensuring that the 6G research priorities are realized with research projects.
- The essence of WGTD should be to reduce friction in the interactions between industry, academia and government, and facilitate the initiation of research activities.
- It would serve as a community, with information sharing about funding opportunities, matchmaking among different parties to coalesce around projects of common interest, reporting on research outcomes, organizing workshops with funding agencies etc.

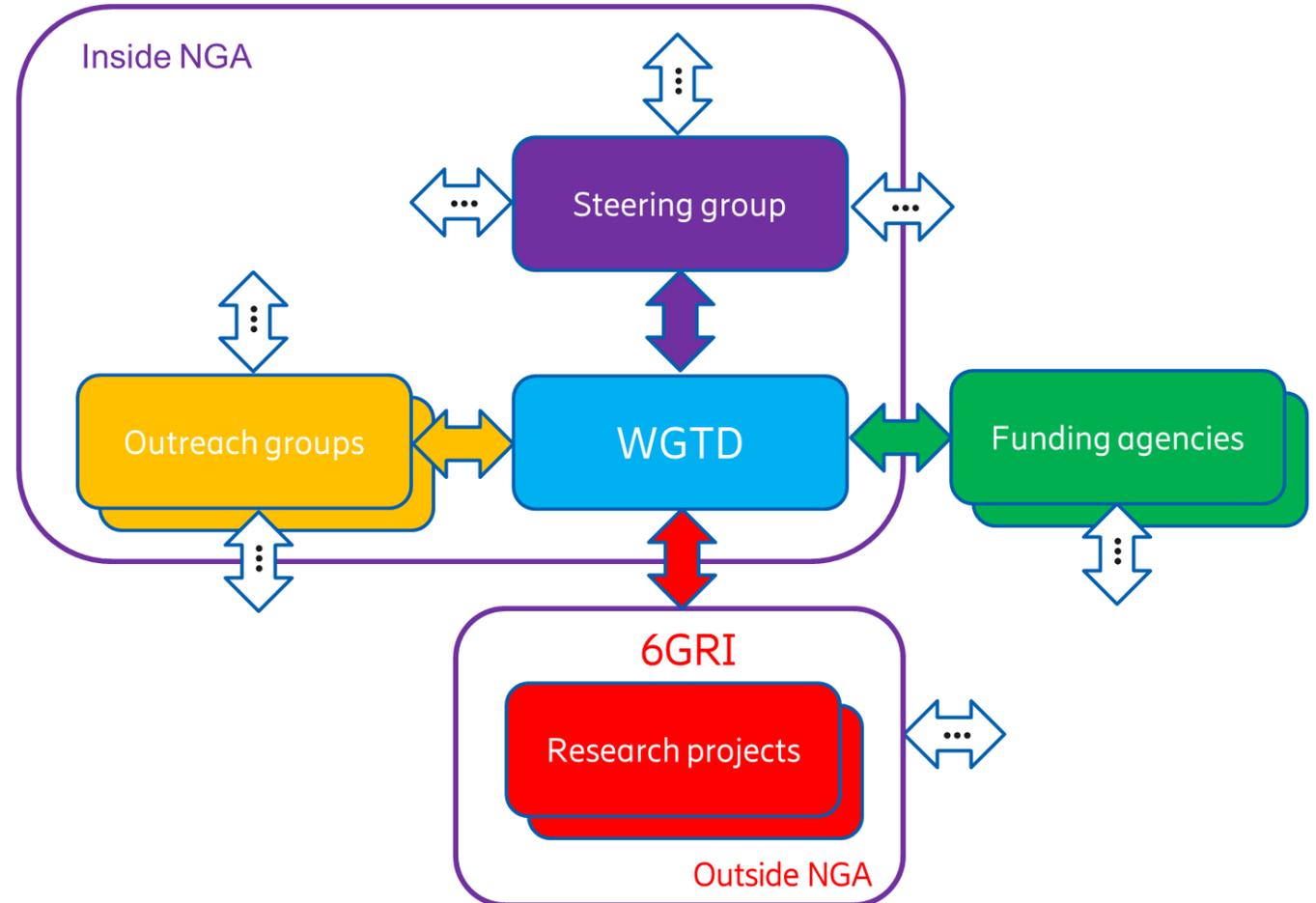
# Operational role of WGTD



# Place of WGTD in context of NGA



- Internal interfaces
  - Steering group
  - Outreach groups
- External interfaces
  - Research projects
  - Funding agencies
- Other interfaces downplayed here



# 6G research



- What we mean by 6G or next G research is technical advances aimed beyond the natural evolution of 5G.
- Working back from “2030”, we feel there is some urgency to get going and move forward. The time to support academic research towards 6G is now.
- In our view, the early phase of research should be precompetitive in nature, allowing relatively close collaboration with academia and within industry, and resulting in openly available published outcomes.
- We need to join forces to create and sustain the initial momentum, and this can only happen with cooperation and openness.
- Later as we move to a pre-standards phase and a full competition, companies would choose to champion certain basic technologies and further tune them and reduce them to practice internally.
- Some of these technologies become part of standard contributions or proprietary product solutions.

# NSF partnership



- For the past few months, we have been engaged in discussions with NSF and industry partners about setting up a multi-party partnership on 6G.
- The purpose is to spur early academic research towards our 6G vision.
- The partners and NSF define the theme of the proposal solicitation.
- As of this writing, the basic funding structure is \$500 K per partner per year over 3 years, matched 1 to 1 by NSF.
- An optimistic timeline would have the solicitation out in a few months with the winners announced in the fall and projects starting by year end.

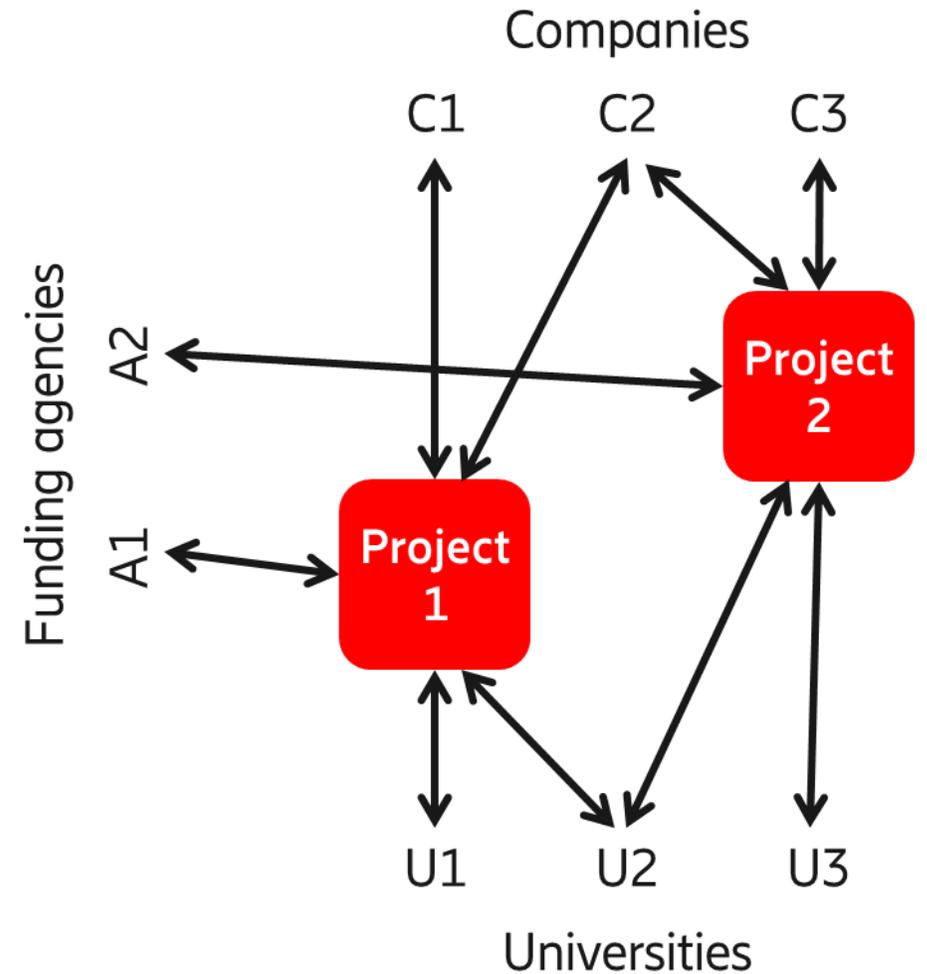
# NSF as pilot for pull



- In the context of NGA, we view NSF partnership as a leading pilot for pull.
- In this particular instance, the funding comes from industry and government and is earmarked for academia, and we adopt the NSF partnership model with all its associated mechanisms.
- It would constitute a template for how to set up new projects or extensions under 6GRI.
- This illustrates how WGTD can reduce friction.

# Flexibility in engagement

- Flexibility in engagement allows us to adapt and follow the money.
- Main categories of pull opportunities:
  - Government funding for our own research
  - Government match for our own funding
  - Augment government funding with our in kind staff time
  - Augment government funding with our in kind equipment



# Evolution of research projects over time



- Roughly 10 year time span
- Initial projects would tend to be small and exploratory, with sub-million dollar budgets focused on basic research and involving a handful of persons.
- Later larger center type projects would have multiple million dollar budgets and involve dozens of persons.
- Also, some later projects would focus on large experimental testbeds with high infrastructure costs.
- In turn, such testbeds would spawn a new wave of small experimental projects, and so on.
- Evolve along with the various opportunities and continue to support the research community along this journey.

