Forming the Right Research Team

Anita Gale
Boeing Space Vehicle Cargo Integration (retired)
Co-Founder, Space Settlement Design Competitions
Forming the Right Research Team

• It’s a Systems Engineering Challenge!
Forming the Right Research Team

• It’s a Systems Engineering Challenge!

• Start with REQUIREMENTS
  – What is the purpose of the research?
  – What is the intended result of the research?
  – Who are the customers for the research results?
  – What are the customers’ expectations from the research?
  – Get into UNAMBIGUOUS DETAILS!
Forming the Right Research Team

• It’s a Systems Engineering Challenge!

• Start with REQUIREMENTS
  – What is the purpose of the research?
  – What is the intended result of the research?
  – Who are the customers for the research results?
  – What are the customers’ expectations from the research?
  – Get into UNAMBIGUOUS DETAILS!

• Identify initial conditions affecting HOW to meet Requirements
  – Are there constraints?
  – Are there pre-existing conditions?
  – Is there a supply chain?
  – Is useful infrastructure available?
Forming the Right Research Team

• Only AFTER establishing Requirements and initial conditions:
  – Identify knowledge and skills needed for success
  – Identify potential team members who have the needed knowledge and skills
Forming the Right Research Team

• Only AFTER establishing Requirements and initial conditions:
  – Identify knowledge and skills needed for success
  – Identify potential team members who have the needed knowledge and skills

• Select a Team Leader who will implement effective processes
  – Keep the Team focused on the Requirements (no detours!)
  – Assure communication happens in the team (no stovepiping!)
  – Detect and discourage hidden agendas
  – Stay on schedule
  – Stay on budget
  – Keep customer(s) informed and happy
Forming the Right Research Team

• Only AFTER establishing Requirements and initial conditions:
  – Identify knowledge and skills needed for success
  – Identify potential team members who have the needed knowledge and skills

• Select a Team Leader who will implement effective processes
  – Keep the Team focused on the Requirements (no detours!)
  – Assure communication happens in the team (no stovepiping!)
  – Detect and discourage hidden agendas
  – Stay on schedule
  – Stay on budget
  – Keep customer(s) informed and happy

• Establish processes and expectations to assure success
  – Verify that what you plan to do meets the requirements
  – Validate that what you did met the requirements