**Minutes**

**Alabama Space Authority**

**Meeting  
  
April 26, 2022**   
University of Alabama – Tuscaloosa, AL

**Call to Order:**   
10:26 A.M.   
  
**Welcome and Remarks**

Chairman Livingston called the meeting to order.

**Roll Call**

Present: 6

Dr. Daniel K. Wims

Major General (Ret.) Tim Crosby (joined virtually)

Mr. Luther Roberts, Jr.

Senator Steve Livingston, Chair

Dr. William T. Hutto (joined virtually)

Dr. Dale Thomas (joined virtually)

Visitors: 18

Shonda Gray

Ed Hackett

Vinesh Vikas

Jordan Howard

Judy Miller

Mark Patterson

Russell Mumper

Cynthia Lee Almond

Gerald Allen

Ellis Brazeal

Jeffrey Martin

Bobby Singleton

Porter Bannister

Charlie Taylor

Dr. Jim Reilly

Frank Farmer for Mr. John Cooper

Robert LaBranche (joined virtually)

Gregory Thompson (joined virtually)

**Minutes**  
Motion to approve by Senator Livingston.

Second by Dr. Daniel K. Wims.

Vote called – Unanimous.

**Reports and Presentations  
  
Presentation by Dr. Jim Reilly, President, Mach 25 Management, LLC.** Dr. Reilly’s topic of discussion focused on current and future efforts regarding in-space manufacturing and the challenges presented by it. In-space manufacturing is a promising, emerging market, that is intended to alleviate dependence on Earth-sourced materials. Dr. Reilly noted the ability of the University of Alabama’s expertise and capability to provide a collaboration with the existing and emerging efforts toward these research operations.

* In April 2022, the National Science & Technology Council’s In-Space Servicing, Assembly and Manufacturing Interagency Working Group published a national strategy prioritizing the advancement of in-space assembly/manufacturing research, development, sustainability, and collaboration.
* Artemis I is a planned lunar test flight that will be uncrewed. It is expected to provide valuable information needed for the planning of in-space manufacturing.
* Proposed plans include the construction, operation, and maintenance of structures on the surfaces of both the Martian and lunar surfaces in addition to the development of logistics supply chains in the orbits between them and the Earth.
* Challenges include the development of standards in order to ensure the efficient development and maintenance of this future industry.
* In-space manufacturing will require alternative approaches toward these Moon and Mars programs because the conventional approaches will be too costly for this new endeavor.
* The University of Alabama has already begun developing economic approaches to in-space manufacturing such as the development of “moon-bricks” intended to utilize resources found on the lunar surface.

The presentation is attached.

**Discussion:** Questions were asked about the specifics of the Artemis missions to the moon and how they relate to future missions to the surface of Mars. Dr. Reilly explained that the length of these missions is dependent on the technology used, reiterating that conventional approaches would be more costly. Additionally, Dr. Reilly explained that what is done for these lunar missions can be seen as transferrable to the surface of Mars as there is not a difference in cost. The main differences are the time that it takes to get there, and the length of time spent on the surface.

**Next Meeting**The date and time for the next meeting will be announced later.  **Adjourn**11:10 A.M.