

SPACE LIFE SCIENCES SYMPOSIUM (A1)
Medical Care for Humans in Space (3)

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ADVANCING INNOVATION THROUGH COLLABORATION: IMPLEMENTATION OF THE NASA
SPACE LIFE SCIENCES STRATEGY**Abstract**

In May 2007, NASA's Space Life Sciences Directorate (SLSD) published its strategic plan specifying the need to collaborate with external entities to effectively achieve its goals of driving health and performance innovations aimed at enabling long duration human space flight.

SLSD explored various models of collaboration to implement its strategy. A benchmark was conducted to assess best practices in establishing and managing alliances. This effort indicated that collaboration is crucial to driving innovation. Organizations use collaborations to innovate quickly and cost effectively, improve the quality of innovation, and enhance their portfolios by supplementing internal capabilities with external capabilities.

SLSD also partnered with the Harvard Business School to evaluate the directorate's potential for utilizing open innovation to address technical challenges, and to apply a portfolio mapping model to determine which gaps or needs in its technical portfolio would be best suited to a specific collaborative approach.

These recommendations provided the foundation for the SLSD pilot projects in open innovation to determine if internet-based platforms could be used to find solutions to difficult technical challenges. Following a portfolio mapping effort to determine which challenges were most amenable to open innovation, the selected technical problems were converted to problem statements and posted externally. The results were significant, leading to new insights and contacts in topics as complex and diverse as predicting solar proton events, long-duration food packaging, and bone imaging.

Because using a deliberate, structured approach is critical for effective collaboration, SLSD is also developing its own Framework for Strategic Innovation, aimed at closing its technical gaps based on the highest priority human system risks. Employing open innovation is just one tool in this evolving framework.

To facilitate achievement of its innovation goals, SLSD established the NASA Human Health and Performance Center on October 18, 2010 (<http://nhhpc.nasa.gov>). The Center provides a collaborative forum for its now 70+ government, industry, academic, and non-profit members. The first workshop on best practices in collaboration and open innovation was conducted on January 19, 2011, resulting in several proposed projects with new partners. These and other collaborations, as well as the evolving strategic framework, will be detailed in the paper demonstrating that a government-sponsored entity can facilitate cross-sector collaborations for products of mutual benefit.