

PATHFINDER'S GUIDE

TO THE SPACE
ENTERPRISE

A magnificent journey
through the unknown



// START JOURNEY

HOW TO READ THIS MAP

SETTING THE STAGE

Outer space may be a vacuum, but our concepts of the future don't develop in one. Centuries of human history have shaped where we are and will continue to help shape our future.

SOME QUESTIONS TO ASK
AS YOU NAVIGATE THE MAP

What if some combination of these things happened?

What would that mean to me?

What are unforeseen opportunities and risks in the future?

CORE THEMES
OF THE FUTURE OF SPACE

Hundreds of ideas from dozens of experts have been condensed into the seven core themes below. Each of these themes serves as an anchor in the present and a portal to the future.

These themes can overlap in virtually unlimited ways as time moves forward. The intersections along the ripples of the map aren't predictions, and they're not comprehensive, but they prompt us to ask critical questions that can help us shape the future towards preferred outcomes.

INTELLIGENCE INFRASTRUCTURE

Artificially "incubated" information available on demand

CONFLICT

Modalities and landscapes that change continuously and at exponential speed

WORKFORCE

The skills, capabilities, and social environments to deliver the future

RESOURCES

Physical and virtual space-based "jewels" that fuel exploration, development, and benefits to Earth

ACCESS

Physical and virtual delivery, usage, and connectivity, from Earth to space and intra-space

PLAYERS

Explorers, entrepreneurs, innovators, government leaders, service providers, and societal elements of the space ecosystem

EXPLORATION

The emergence of a space-faring society

SMALL SAMPLING OF HISTORY

Shown below are **Historical Movements** (that represent values, narratives, and deep assumptions).

Systems (infrastructure, institutions, and rules) that have influenced the West over the last 500 years.

The dimension of time flows outward from the core theme, like ripples on a pond. And at the intersection of the ripples are examples of **implications**.

What values and systems will shape the experiences of tomorrow? Some ideas are shown here in **red**. Add your own conclusions... after studying the map of the future!



GO AHEAD, EXPLORE!

Along the way you may find exotic characters, curious artifacts, and many surprises.

Watch for space shocks, leapfrogs, and breakthrough events that have their own ripple effects—sudden jumps from one possibility to a startling new one, or a shortcut to transformation.

It may all be overwhelming, but let this map be your guide in exploring the topsy-turvy, uncertain, murky, and fantastical possibilities of the future!

Go ahead, open it up, take it all in, and awaken your curiosity. Whatever you do, don't fight the possibilities. They are just that: possibilities to ponder. Embrace the journey and get ready to explore the future wonders of the space enterprise...

LOST?

In our search for clarity about the future, identifying major unknowns can help us **hone in on** relevant divergent future possibilities. Our research team has identified two critical uncertainties:

1. The degree in which space will be "commercialized."
How much will space exploration and exploitation be designed to seed the commercial ecosystem?

2. The evolution and potential transformation of global power states.
What space-based leverage points could change the terrestrial power balance?

LOOKING BACK FROM
THE JOURNEY

Food for thought to as you travel back to the present. We see two major cross-cutting takeaways:

HOMO DEUS

We are on the precipice for directly controlling our own evolution through our DNA and, in parallel, moving toward creating a generalized AI. Space is very much a part of the human journey of our self-exploration.
*What does it mean to be human?
What is our purpose?
How did we get here?
Where do we want to go?*

JEWELS OF SPACE

We see many unique ways in which space can benefit society.
*What new wealth will arise from a booming space economy?
Will there be a national advantage?
What new scientific discoveries will be made?
How will space entertain and inspire us?*

THE FUTURE OF SPACE IS
YOU

The budding, complex, mighty, and vibrant space ecosystem is on a very exciting journey. And guess what. You are part of weaving its future fabric (whether you know it or not).

We hope this map helps you reflect on the potential concerns, pitfalls, hype, underdogs, hopes, dreams, treasures and surprises that may lie ahead.

Furthermore, we hope it sparks you to imagine your preferred future and work toward actively shaping it today.

The Strategic Foresight Initiative at Aerospace is dedicated to expanding the futures mindset for the space enterprise.

Expanded research and citation list for this map is also featured on our online website.

Interested in learning more? Email us at Futures@aero.org or check us out at Aerospace.org/policy.

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