



# A galaxy of opportunities

**Healthcare and life sciences in the new space economy**



**As the commercial space industry evolves, few sectors remain untouched by its technological advances.**

Commercial space is moving quickly along its inevitable trajectory from sci-fi to business reality, as pioneering companies around the world pursue vast potential markets for space tourism, space manufacturing, space-enabled connectivity, and more. Barely a week goes by without the mainstream media marking another step in the space tourism journey; sector cheerleaders speak of a 'new industrial revolution'. While hype is inevitable and real obstacles remain, it is clear to most observers that commercial space has entered a new era — viability is finally catching up to ambition. With that in mind, the time is right for other sectors to pay attention.

The implications are broad. Just as the first, government-driven wave of space exploration eventually revolutionized fields such as medical imaging, cardiac monitoring, water purification, and human implant devices, so today's private enterprise-driven space commercialization is expected to yield technology breakthroughs whose applications go far beyond their first use case. Commercial space is therefore conceived as not a vertical but as a galaxy of multi-sectoral opportunities to be derived from accessing, operating in and connecting to space. Whole new suites of services, products, and value await discovery there, representing a huge opportunity for today's corporate leaders. But first they must understand the implications of commercial space advances for their own sectors — the earlier the better.

“Considering space now is a strategic move that can open new opportunities for growth and innovation.”

**Grant McDonald**

Global Head of Aerospace & Defense  
KPMG International

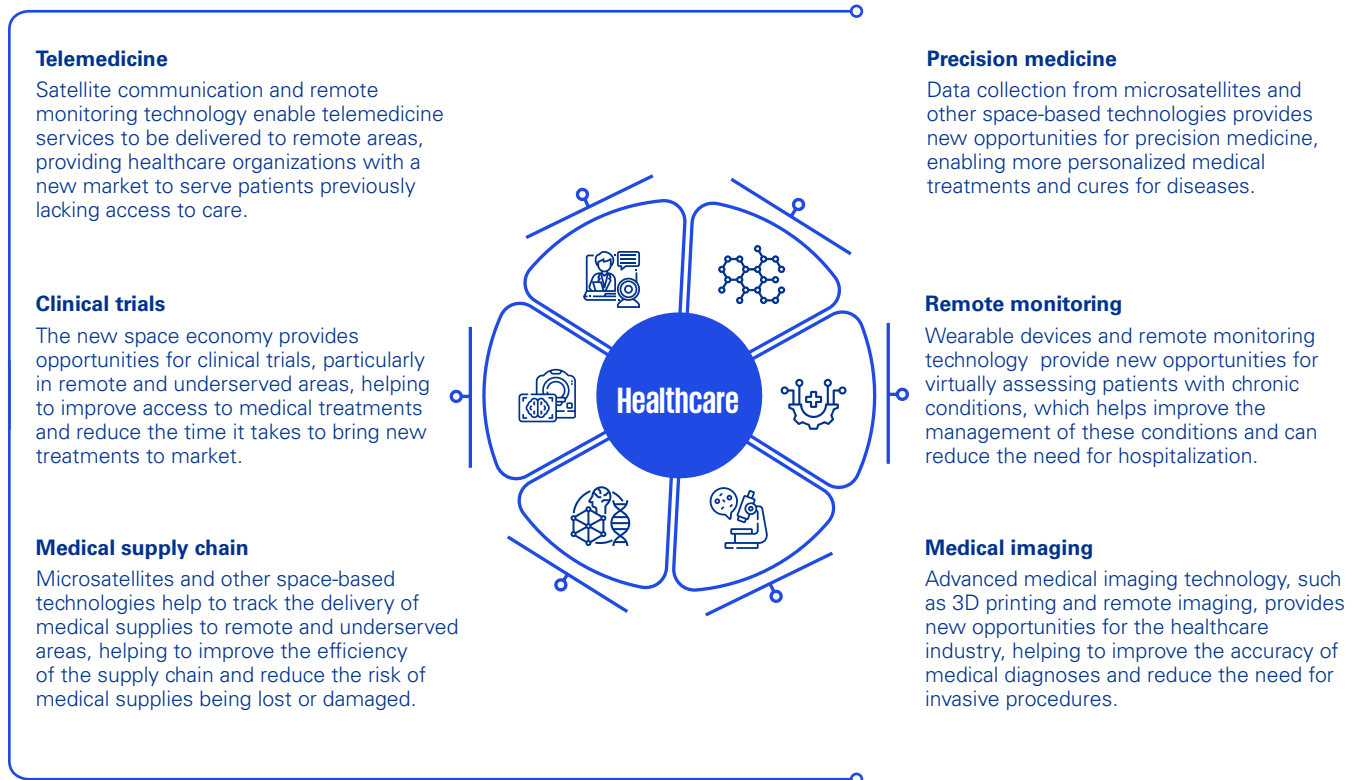
## Life sciences and healthcare

Two sectors facing an urgent need to engage with these questions are life sciences and healthcare, both of which are already experiencing a breadth of applicable advances, services and revenue streams made possible by technologies and infrastructure developed in and for commercial space.

In healthcare, there are new opportunities to improve patient outcomes, reduce costs, and increase efficiency via advances such as satellite-based medical imaging, remote medical monitoring, device miniaturization, and medical supply chain management. The COVID-19 pandemic has given new relevance to the applicability of space-created technologies to healthcare, with space assets being used to facilitate epidemic mapping, deliver health education to remote communities, quantify the impacts of lockdown and monitor post-lockdown recovery.

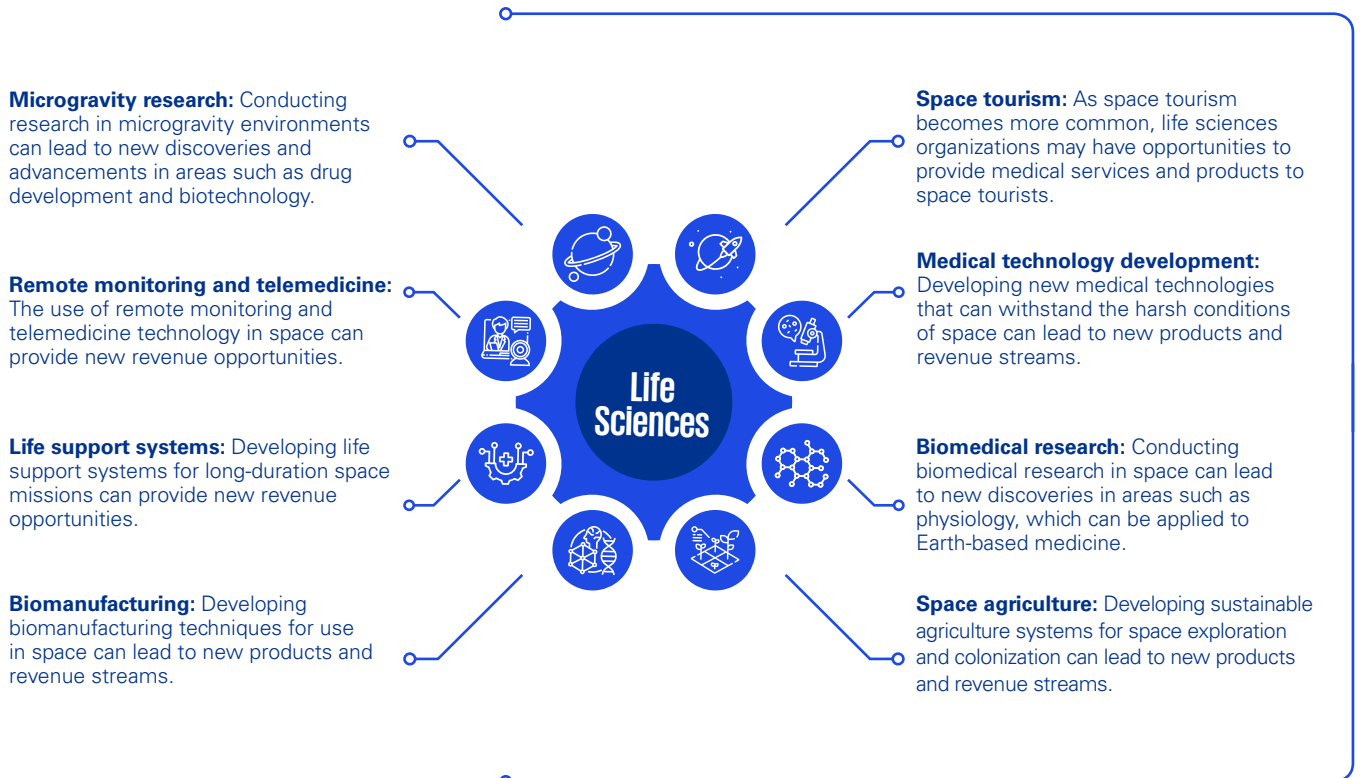
Meanwhile in the life sciences, space's differentiated gravity and radiation levels provide a unique environment for experimentation. Space-based biomanufacturing promises purer drugs, while space-based research into the effects of microgravity on the human body may yield new insights and treatments. The list of commercial opportunities is already long and growing fast.

Commercial space continues to intersect with many developing areas in healthcare and life sciences.



“The new space industry can unblock existing boundaries to healthcare, opening up a realm of opportunities in fields that can help define the new future of healthcare.”

**Dr. Anna van Poucke**, Global Head of Healthcare, KPMG International



Of course, commercial space players also stand to gain from these opportunities and have a vested interest in finding appropriate partners. While they can provide the enabling infrastructure, it is healthcare and life sciences companies that are expected to identify the relevant commercial opportunities for their sectors, and that are likely to be needed to secure the data, biological and medical knowledge, and regulatory compliance necessary to safely commercialize new tech solutions. Engaging with interested parties from life sciences and healthcare is therefore likely to loom large in the strategies of commercial space industry businesses looking to develop new business models and grow their market.

What all these opportunities have in common is collaboration. Siloed activity may not build the value-creation ecosystem that commercial space promises. Spinoffs and job creation will likely emerge from the interplay of startups, fast-growth SMEs, multinationals, and regulators across sectors seeking to surface, test, and bring tech solutions to market, creating a virtuous cycle of innovation, value creation, and growth. Policymakers

and regulators have a key role to play here, unlocking obstacles such as cross-border data access restrictions whilst finding the right balance between mitigating risk and nurturing innovation. A stable regulatory environment, giving organizations as much visibility and predictability as possible when it comes to the risks of doing business in this highly dynamic sector, is expected to be critical to the maximization of investment.

As the new space economy continues to evolve, all businesses need to consider the growth opportunities it has to offer. Those organizations that seize such opportunities today are expected to be best positioned to capitalize on the growth expected in coming years. Life sciences and healthcare businesses have much to gain from unearthing the hidden value at the intersection of space, technology and their own ambitions, but actually doing so will be challenging. Management teams should not only have a dynamic awareness of the space sector's evolving technological possibilities, but the vision to proactively identify those most relevant to their customers and stakeholders.

*Key questions that need to be considered include:*



**Careful consideration of these questions can put your business at the intersection of space and earth in the healthcare and life sciences sector — will you be ready?**

# How KPMG professionals can help

## Strategy



**Government space** — Collaborating with state and federal governments on key space matters including policy and program design, implementation, and economic analysis.



**Defence space** — Working with defence space organizations and strengthening relationships between defence and other government departments, international partners and allies in support of access to the space domain. Developing defence space policy and architecture and supporting the current and future growth of a skilled space workforce and industry.



**Cross-sector capabilities** — Helping to perform a whole-of-space-sector analysis and assessing the various capabilities that can support government, industry and academia.



**Deals and funding** — Supporting cross-functional due diligence, mergers, acquisitions and divestitures as well as introducing and educating investor communities looking to engage in the space sector.

## Data and Technology



**Engineering and asset management** — Performing engineering and asset management assessments of complex space systems, enabling reliability, maintainability, compliance, and cost-effective operations.



**Technology and cyber security** — Defining informational, operational and emerging technology strategies, architectures and roadmaps across critical infrastructure, space and non-space technologies.



**Space data** — Translating the potential benefits and use cases of space-based remote sensing and communications data to enable downstream on-Earth applications.

## Operations



**Human capital and workforce development** — Understanding the dynamic labor market to help deliver insights and decision support to shape the incoming and outgoing workforce.



**Supply chain optimization** — Collaborating with organizations strategically and operationally to help analyze, plan, build, model, and run optimized wide-ranging operations.



**Legal and regulatory** — Helping to navigate the complexities of the legal and regulatory compliance requirements of operating in space.

# Contact us



### Grant McDonald

Global Head of Aerospace & Defense  
KPMG International  
+1 246 233 7866  
grantmcdonald@kpmg.bb



### Brian Miske

Managing Director  
KPMG Ignition, KPMG in the US  
+1 201 505 3547  
bmiske@kpmg.com



### Dr. Anna van Poucke

Global Head of Healthcare  
KPMG International  
+31206 568595  
vanpoucke.anna@kpmg.nl

Some or all of the services described herein may not be permissible for KPMG audit clients and their affiliates or related entities.

[kpmg.com/socialmedia](https://kpmg.com/socialmedia)



The information contained herein is of a general nature and is not intended to address the circumstances of any particular individual or entity. Although we endeavor to provide accurate and timely information, there can be no guarantee that such information is accurate as of the date it is received or that it will continue to be accurate in the future. No one should act on such information without appropriate professional advice after a thorough examination of the particular situation.

© 2023 Copyright owned by one or more of the KPMG International entities. KPMG International entities provide no services to clients. All rights reserved.

KPMG refers to the global organization or to one or more of the member firms of KPMG International Limited ("KPMG International"), each of which is a separate legal entity. KPMG International Limited is a private English company limited by guarantee and does not provide services to clients. For more detail about our structure please visit [kpmg.com/governance](https://kpmg.com/governance).

Throughout this document, "we," "KPMG," "us" and "our" refers to the global organization or to one or more of the member firms of KPMG International Limited ("KPMG International"), each of which is a separate legal entity.

The KPMG name and logo are trademarks used under license by the independent member firms of the KPMG global organization.

Designed by Evalueserve.

Publication name: **A galaxy of opportunities** — Healthcare and life sciences in the new space economy

Publication number: 138633-G

Publication date: March 2023