Top trends to watch in Space

Read on for CGI client insights on how to accelerate your digital journey and stay relevant for the future

2022 CGI VOICE OF OUR CLIENTS

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Secure connectivity is a top concern

Impact of macro trends

Technology and digital acceleration is a high-impact macro trend for 52% of space executives, as space technology increasingly becomes part of daily life.

Supply chain reconfiguration is a high-impact trend for 44% of executives. While supply chain disruptions pose challenges in this industry, satellite data helps other industries with their supply chains, such as to optimize shipping routes.

Climate change is the third-cited macro trend (28%), and space enables many solutions to advance environmental sustainability.

Top of mind for clients

This year, 100% of space executives see cybersecurity as their top industry trend.

Connectivity demands are rising rapidly, and more connected devices means greater complexity and a larger attack surface to manage.

Data analytics and big data continue as the top business priority, reflecting the importance of space data to solving pressing issues.

Assuring regulatory compliance rises to the second top trend, as increasingly nationalistic policies drive new regulations and procurement rules with participation conditions.

Becoming digital is the third top trend, as it is key to shifting from hardware to software solutions, and from big satellites to smaller (i.e., nano) ones.

Among space executives, 69% have a defined digital strategy and 50% are operational or producing expected results from those strategies. This is below the all-industry average of 55%.

Commercial-of-the-shelf (COTS) software implementation is a new IT priority to help modernize or replace legacy systems, which 69% of executives see as a barrier to their digital strategies.

About the insights

Each year, we meet with client executives from around the world to get their views on the trends affecting their organizations and industries. Through the CGI Voice of Our Clients, we analyze these findings to provide actionable insights by industry to benchmark best practices, including the attributes of digital leaders.

In 2022, we met with 1,675 business and IT executives. **This summary report shares sample insights from 25 space client executives.**

Interview demographics

Business leaders 80%  20% IT leaders

C-level 44%  56% Ops-level

Top trends & priorities

Industry trends and priorities are similar year-over-year, reflecting the industry's 5-year planning cycle. However, regulatory compliance sharpens in focus, changes in procurement models is a new industry trend at fifth, and COTS implementation is a new IT priority at fifth.

Key takeaway

Cybersecurity and big data continue to dominate industry concerns and mandates, with greater intensity.

	Top industry trends	Top business priorities	Top IT priorities
1	Protecting through cybersecurity	Data analytics and big data	Protect through cybersecurity
2	Assuring regulatory compliance	Becoming digital organizations to meet customer expectations	Embrace new IT delivery models (e.g., SaaS and PaaS, agile)
3	IT modernization and cloud solutions	Reprioritize spend on priorities	IT modernization, data center consolidation, cloud

The industry trends capture key drivers with the greatest impact on the clients' industry. The business priorities represent how clients are addressing the industry trends, and the IT priorities reflect the technology areas of focus to address the trends and achieve the business priorities.

Digital progress in Space

In 2022, half of space executives say their organization is either operational with their digital strategy or is producing expected results from that strategy. Additionally, 43% say digitization has a high level of impact on their business model.

Executives who say their organizations are producing expected results from digital strategies

50%
Space

55%
All industries

Digital adopters in Space

In examining the 50% of space executives whose organizations are operational or producing expected results from digital strategies, some common attributes emerge.

The table compares responses to questions from these digital adopters to those from executives whose organizations are still building or launching digital strategies, or digital entrants.

Attributes of digital adopters vs. those building or launching digital strategies (digital entrants)

	 Have highly agile business models	 See sustainability as core to creating value for customers	 Produce results from cyber strategies
Digital adopters	38%	50%	100%
Digital entrants	13%	41%	88%

Key findings from our interviews with Space clients

1.

Security intensifies as dominant trend.

This year, 100% of space executives cite cybersecurity as the most impactful industry trend, rising from 91% last year. Protecting through cybersecurity also returns as the top IT priority this year, as it was before the pandemic.

2.

Big data remains top business priority.

83% of space executives say analytics and big data is their top business priority, up 9pp since 2020. Data analytics and business intelligence also continues as a top IT priority.

3.

Regulatory compliance rises in importance.

For the past three years, assuring regulatory compliance has risen in mentions as a top trend, up 23pp since 2020, consistent with increased regulatory changes driven by geopolitics and evolving economic policies

4.

C-suite sees sustainability as core to value creation.

56% of C-level leaders in space say sustainability is highly core to creating value for stakeholders in the future, rising from 38% in 2021. Across all executives in space, 41% see sustainability as core to value creation.

5.

All digital adopters see results from cyber strategies.

84% have implemented a cybersecurity strategy for their entire enterprise. 100% of digital adopters are seeing results from such strategies, compared to 88% of digital entrants. Top cyber program elements are: identifying critical assets, testing and verifying response capabilities; and employee training and awareness.

6.

More digital strategies are in place.

69% of space executives report having a digital strategy in place at some level, however, only 50% say their strategy is operational or producing expected results.

7.

Over half of Ops leaders rank supply chain reconfiguration as high impact.

54% of operations leaders, vs. 33% of C-level leaders, say reconfiguration of supply chains to reduce risks and increase resilience has a high impact on their organizations.

8.

Only 1/3 cite strong business-IT alignment.

When it comes to aligning business and IT operations, there's room for improvement. Only 33% say their IT and business operations are highly aligned to support their strategy; and just 28% say those operations are deeply integrated to execute the strategy.

9.

Digital adopter business models are more agile.

38% of digital adopters say their business models are highly agile for digitization, compared to only 13% of digital entrants.

10.

Partnering helps address IT hiring challenges.

78% of space executives cite difficulties in hiring IT talent. Top actions to address this challenge include: partnering / collaborating and targeted recruitment.

4 recommendations for staying relevant for the future

1. Cooperate and collaborate to break down barriers.

One the one hand, geopolitical events and increasingly nationalistic policies are driving new regulations and procurement rules with participation conditions. On the other hand, space continues to be one area where all countries are still working together. Cross-sector dialog can continue to break down barriers. For example, COP26 brought together companies, institutes, non-profits, students, entrepreneurs and more, all working toward sustainability solutions. This generated interest in space-data opportunities to solve climate and sustainability challenges. Some newer space-enabled technologies (e.g., self-driving cars) bring new issues, and regulatory frameworks lag these advances and require greater collaboration as well.

2. Invest, invest, invest in cybersecurity.

Smart connection everywhere requires greater linkage between Earth and space networks. More satellites means more interfaces between systems, increasing the cyber-attack surface. Large constellations also increase the complexity of ground control systems. While new technologies and data sources are enabling digital evolution, cyber threat actors are harnessing these same advances to create an increasingly dynamic risk landscape. Greater urgency around cybersecurity demands commensurate investment in secure solutions, security operations centers, monitoring centers, advanced technology and expertise. Space organizations must continue to identify their critical assets, test and verify response capabilities and conduct regular training and awareness programs.

Case in point

Enhancing security software for Galileo

Through a contract with Thales Alena Space, CGI is improving the functionality, robustness and reliability of the Galileo Satellite Navigation System's ground infrastructure, as well as maintaining software for its Public Regulated Service (PRS) Key Management Facility. Only government-authorized entities have access to Galileo's secure PRS signal that meets strict security standards in areas such as defense, law enforcement and customs.

3. Continue to solve pressing challenges using space data.

Government and industry seek better ways to access and share data to address challenges from climate change to supply chain reconfiguration. Increasingly, space data is part of these solutions. The cost of space data is becoming cheaper as satellites become smaller. It's also getting easier to manipulate this data, but processing large volumes still has high costs, especially for real-time data. The space industry should continue to help other markets solve pressing problems and encourage those industries to hire experts to identify these wide-ranging possibilities. Organizations can combine uses cases to achieve economies of scale, and various consortia increasingly are learning and sharing what is possible.

4. Pursue rigorous standardization.

Standardization is needed across regulations and processes to accelerate results while reducing cost and risk. Also needed are efforts to align solution development, from both an innovation point of view and a delivery point of view. One area where strong intergovernmental standards are lacking is space sustainability (e.g., to ensure resident objects can be tracked and that new assets have suitable end of life policy and collision avoidance mechanisms). Basic guidelines to help international operators avoid collisions need to be agreed.

Case in point

Advancing 5G relationships and standards

CGI and ESA are advancing 5G through demonstrations, user pilots and technology development for hybrid terrestrial-space networks and spectrum management. They are supporting the development of global relationships in the satellite and terrestrial communications community and by contributing to the development of architectures, standards, interfaces, testbeds and service platforms.

Case in point

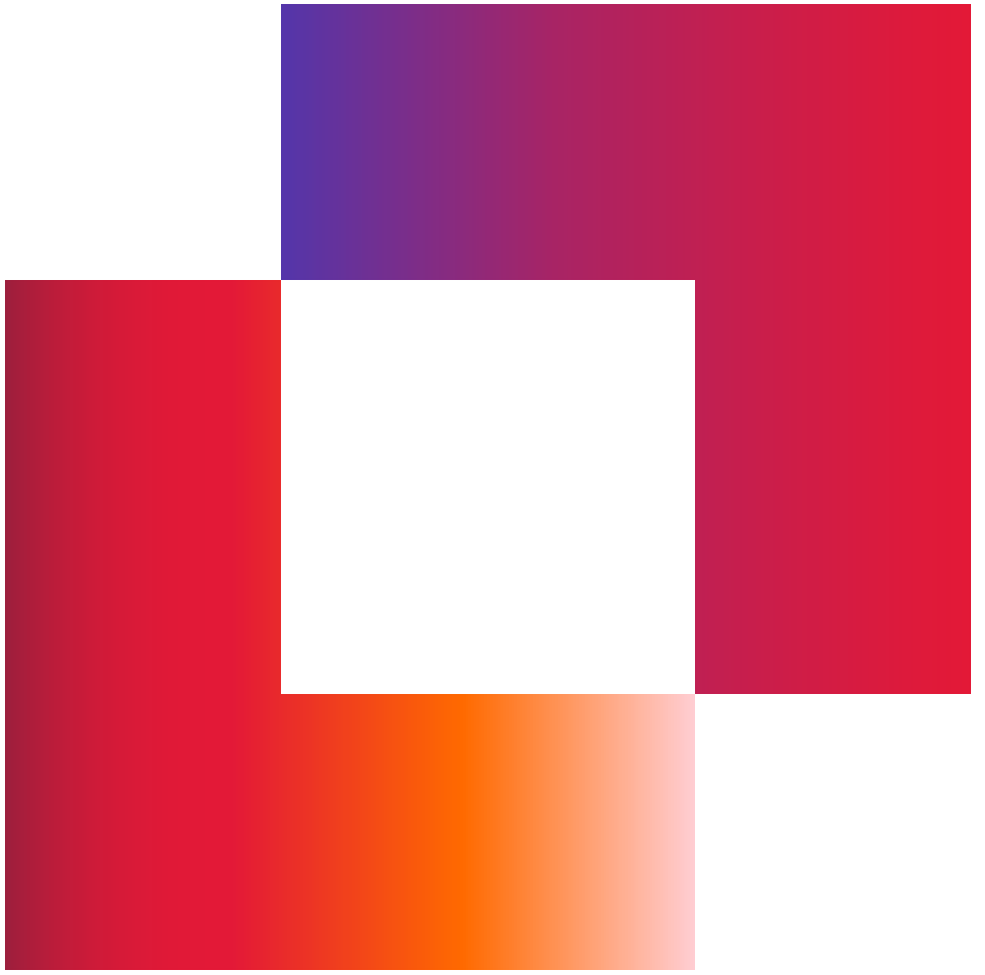
Supporting standards development in Space Domain Awareness (SDA)

CGI supports development of standards through membership in various organizations, such as GNOSIS and UKspace, development of the Aurora Space Domain Awareness (SDA) tool for UK Space Agency (UKSA) and UK Space Command, work on space-based SDA sensors for ESA and the recent UK SDA report we produced for UKSA on behalf of UKspace and GNOSIS. Read the report

Insights you can act on

Founded in 1976, CGI is among the largest IT and business consulting services firms in the world. We are insights-driven and outcome-based to help accelerate returns on your IT and business investments. Our insights represent deep knowledge of industry trends and your business and IT priorities.

For the latest CGI Voice of Our Clients industry insights, and to consult with one of our experts, please contact us.



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