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Exiting the Echo Chamber — How Space Can Provide Greater Value by Better Understanding Its Beneficiaries and Partners

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Abstract

Space is experiencing a challenging tension. From awe-struck acclaim for the possibilities of space telescope imagery and rover-captured videos of Mars, to the reverence for astronauts and the rapid growth of the start-up space sector, to space's place as source material for some of the most popular entertainment franchises today — incredible technical achievements and a permanent place in the pop-culture zeitgeist are hallmarks of our sector. Yet space can also be the subject of derision and criticism from elected officials and heads of state, news media, and the public at large for being an extravagant playground for the wealthy and a beneficiary of wasteful government spending. In short, within the space sector, a common response to these criticisms is to lament this lack of understanding and talk amongst ourselves about our desire for the public to better grasp the value of space. We rightly work to outline the many ways in which space enables and improves modern life on Earth, but if the space sector is to keep growing in economic and societal value, we must go further — we must better understand the aspirations and struggles of other sectors and the public at large, so that space might offer new and better solutions. We need to go beyond telling others why space matters to them and better demonstrate to others that they matter to space. This paper will explore ways in which the space sector might better create and connect its value to society by building better relationships with other sectors, the public, and the media. To guide that exploration, this paper will assess the current state of the space sector's engagement beyond its own bounds, including results from applied examples of such engagement in space and other sectors. The paper will also review a variety of approaches to building relationships outside of space, including:

- 1.) methods, goals, and potential outcomes of building communities with other sectors;
- 2.) tactics for exchanging and processing information from potential beneficiaries of and partners for space-based services, to inform new solutions; and
- 3.) sharing stories of greater substance and broader appeal with news media and the public.

This paper will culminate by offering a framework by which the space sector can make itself more valuable to other sectors and the public via more empathetic and meaningful engagement.

Keywords: outreach, engagement, marketing, communications, societal benefit, partnerships

Acronyms/Abbreviations

CES	Consumer Electronics Show
CONFERS	Consortium for Execution of Rendezvous and Docking Operations
DARPA	Defense Advanced Research Projects Agency
ESG	Environmental, Social, and Governance
IOSM	In-Orbit Servicing and Manufacturing
SXSW	South by Southwest

1. Introduction

The space sector faces the challenge of providing evolving and critical services, data, and insights through civil, commercial, and national security capabilities, all while trying to demonstrate value to other sectors and a public that often views space as fantastical and detached

from reality. To deliver real and perceived value that transcends a diverse array of industries and communities, the space sector must better understand the aspirations and struggles of those industries and communities, so that space might 1.) provide better solutions, and 2.) demonstrate greater care and empathy for those communities and the public at large in the process.

This paper's objective is to explore ways in which the space sector might better create and connect its value to society by building better relationships with other sectors, the public, and the media. To meet that objective, this paper will:

- 1.) assess the current state of the space sector's engagement beyond its own bounds, including

results from applied examples of such engagement in space and other sectors.

- 2.) review a variety of approaches to building relationships outside of space, including:
 - a. methods, goals, and potential outcomes of building communities with other sectors;
 - b. tactics for exchanging and processing information from potential beneficiaries of and partners for space-based services, to inform new solutions; and
 - c. sharing stories of greater substance and broader appeal with news media and the public.
- 3.) culminate by offering a framework by which the space sector can make itself more valuable to other sectors and the public via more empathetic and meaningful engagement.

1.1 Background and Organization

To provide the basis for analysis of the space sector's engagement with other communities and the public, several sources of information on current, relevant activities in the space sector were consulted, referenced, and/or assessed, including documentation of space industry partnerships with other sectors and media coverage of space stories. Similar sources were mined for examples of approaches to community building across sectors, including methods for engagement, inquiry, and data gathering and/or processing, as well as examples of successful campaigns and storytelling in other sectors with multi-faceted technical and social challenges.

With that background in mind, the paper is organized as follows:

Results & Discussion

- state of engagement beyond the space sector, including results of examples
- assessment of recent media/entertainment coverage of space
- Notable, recent efforts for positive engagement between space and other communities
- methods, goals, and potential outcomes of building communities with other sectors
- tactics for exchanging and processing information from potential beneficiaries of and partners for space-based services, to inform new solutions
- stories of substance and broad appeal with news media and the public

Conclusion

- A guide for value and empathy in engagement

In summary, this paper seeks to distinguish itself from other analyses and coverage of the space sector's partner and public engagement by exploring not only

how the sector can better share its stories and convey its value, but how it can better listen to and understand other sectors and the public at large.

2. Results & Discussion

2.1 State of engagement beyond the space sector, including results of examples

Inmarsat recently released a global report titled "What on Earth is the Value of Space?[1]" Approximately 20,000 people in 11 countries were surveyed on questions relating to how they value space, which, according to Inmarsat, is the largest report of its kind ever produced.

Leading the list of what people associate with space is "Satellites" at 46%, with 'Going to the Moon/Mars' at 37%. The two categories with the least association to space are 'Communications & Connectivity' at just 8%, and 'Broadcasting & Television' at a mere 3%.

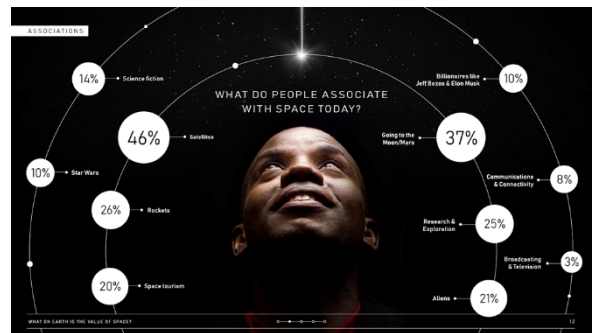


Fig. 1. From Inmarsat's Value of Space Infographic, approx. 20,000 survey respondents' associations with space

Of the 4,550 operational satellites circling the globe (as of September 1 2021 [2]), almost 90% provide communications, including everything from satellite TV and internet of things connectivity to global internet, and navigation/GPS services. Google Maps, a navigation platform that offers satellite imagery as part of its services, is logging an average of 154.4 million monthly users [3].

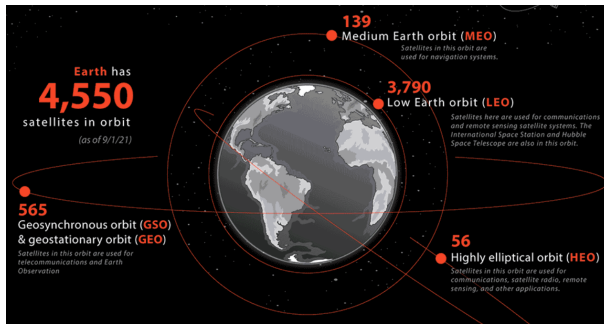


Fig. 2. Number of satellites' in orbit, by orbital regime and purpose (source: Dewesoft)

In summary, almost 90% of satellites offer services that only 11% of global survey respondents associate with space. We clearly have a value and brand problem.

It is the collective responsibility of the space industry to exit the echo chamber of celebrating our achievements and pondering our value with ourselves and instead, connect with the end users and beneficiaries of these services.

To connect more broadly, the space industry must be present for meaningful exchanges on its benefits to its beneficiaries, and on beneficiaries' aspirations and struggles that space could positively affect.

2.1.1 Example #1: The Consumer Electronics Show (CES)

Since 1967, the annual Consumer Electronics Show (CES) “showcases the latest innovations from legacy and emerging technology sectors — and everything in between,” said Karen Chupka [4], executive vice president of the Consumer Technology Association, which hosts the event.

Touted as the most influential tech event in the world, products launched at CES have significantly impacted, and in some cases shaped, modern-day society and culture — from gaming consoles to the VCR, CDs, DVDs, mobile phones, smart products and streaming. Many of the technologies either promoted or integrated into products promoted at the CES, such as camera phones, satellite broadcast communications, the computer mouse, all are rooted in or developed from space-based applications.

In 1976, 9 years after the CES launched, NASA began profiling ‘Spinoffs’ (NASA technologies that benefit life on Earth from commercial technology [5] in an annual report of the same name. Since then, more than 2,000 products have been profiled, with many

derivatives and related technologies having been showcased at CES.

Yet, it wasn't until 2022 that space was invited to the proverbial consumer tech table. As Chupka explained in regard to adding space as a new track, “technology is propelling the space and food industries to new heights, and the CES is the perfect platform to showcase this growth and bring together our industry.”

Actually, it's innovations in the space industry that are — and have been — propelling technology to new heights for more than 60 years.

While it might be a blow to the space sector's collective ego, it's easy to understand why space was not a topic at the CES until this year: space has not been seen as offering consumer products and services until recently.

Could the rapid commercialization of the space industry and availability of consumer products and services, such as satellite internet, be a tipping point the space industry needs to build broader awareness of its value? A little more than 50% of the world's total population (approximately 4 billion people) are connected to the internet, but less than 1% are connected via broadband satellite [6]. As satellite-based services and costs improve, the opportunity to capture the market and build awareness on the value of space improves as well.

Being an active participant in events like CES is an important step to building awareness around the brand and the value of space.

2.1.2 Example #2: The World Ocean Summit

According to the Inmarsat survey, the second most ambitious use for space is monitoring and helping to solve climate change.



Fig. 3. Global space ambitions, ranked (source: Inmarsat's Value of Space Infographic and survey)

With more than 70% of our planet covered by water, continuous monitoring of this resource via Earth observation satellites is critical. From monitoring animals, plants, and changes in currents to measuring sea level and water conditions in a warming climate, the value of Earth observation satellites is immeasurable.

In addition to ocean conservation efforts and climate monitoring, space-based services support the maritime community with an array of reliable navigation and connectivity services. Yet, despite the obvious value of space-based services, there is not one discernable connection to the space industry at the World Ocean Summit, the most notable annual gathering of the ocean community. The opportunity for our sector is immense.

2.1.3 Example #3: The Ever Given blocks the Suez Canal

In 2021, the global retail market generated sales of over 26 trillion U.S. dollars [7]. Spurred by the COVID-19 pandemic, consumers — particularly Americans — were purchasing goods at historic highs in early 2021.

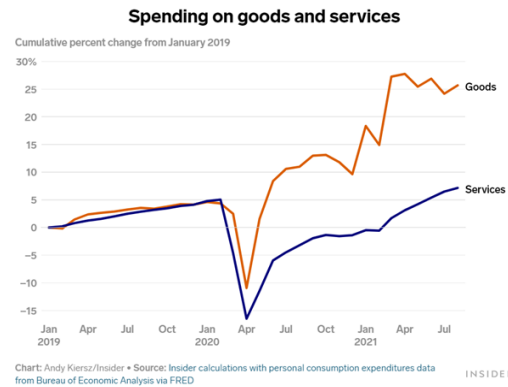


Fig. 4. Change in consumer spending, Jan. 2019-July 2021 (source: Insider; U.S. Bureau of Economic Analysis)

This rise in purchasing caused inventory shortages across a range of products, from electronics to apparel. In March 2021, the already exhausted global supply chain was forced to once again respond to pressure when the world heard, and then saw, the Ever Given cargo vessel became lodged in the Suez Canal.

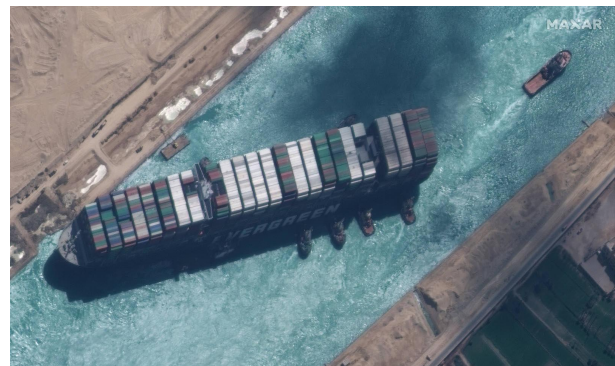


Fig. 5. Maxar's GeoEye 1 satellite took this picture of the Ever Given container ship in the Suez Canal (source: satellite image ©2021 Maxar Technologies)

News of the ship's predicament, which came at a cost of nearly \$10 billion in trade per day, spread quickly across the globe. The media, and therefore the public, were consumed by this story — in the 6 days the blockage lasted, "Ever Given" resulted in an average of 12,800 Google news mentions [8] per day. People were invested because the blockage was presumed to impact their access to goods, which was already strained by the pandemic.

During the six-day ordeal, satellite and remote sensing operators such as MAXAR, Airbus, SkySat, and Planet consistently supplied the media, and more importantly the canal's operators, with satellite imagery that aided in the assessment and eventual freeing of the ship [9].

Whether it was realized or not, for a short period of time the world was constantly reminded of the value and importance of space. This is why awareness of the value of space matters.

2.1.4 Example #4: South by Southwest

It is essential to highlight the impact of the space sector on consumer needs and climate protection, but the fora in which these issues are presented must be considered. If we want to truly convey this message to the general public, then we have to be where people who don't necessarily share an interest in space or technology will notice. One example of a large gathering that attracts a diverse array of interest is the South by Southwest (SXSW) a music and film festival held annually in Austin, Texas.

SXSW has included sessions focused on space in recent years, but it is still not a focused track. The 2023 festival [10] has tracks focused "through the lens of technology, entertainment, and culture." There are over 25 tracks focused on a variety of topics, including media, IT, start-ups, climate, design, branding, and more. But there is no session on space, and the only related reference is to interplanetary travel in a track titled "2050." While references to space that are decades away and seemingly in the realm of science fiction are inspirational, we must instead highlight the *current* value of our activities.

2.1.5 Example #5: Social Media and Influencers

According to one survey [11], the space industry is older (average age of space engineer: 45), less diverse (74% white; 10% Asian), and more gender imbalanced (74% male) than the global population. We have to get out of our comfort zone regarding who we are speaking to and how we are transmitting our messages.

Social media as a platform for message delivery, particularly platforms such as TikTok, Snap and Instagram, should be a priority as we expand awareness. To cite one example of the changing habits of media consumption [12], TikTok sees a billion active users a month, 25% of whom are between 10-19 years old and average nearly 90 minutes a day on the platform. This is not to argue that shifting to a fully "TikTok Engagement Strategy" is the answer; but we should be aware of, and responsive to, shifting trends.

In line with using these new media, we should increase efforts to engage with celebrities and influencers. Endorsements of the value of space by globally recognized figures from outside the industry will accelerate the general public's understanding and

appreciation of the work that we are doing.

2.2 Assessment of recent media/entertainment coverage of space

While space activity has always had detractors who question the value of money being spent on pure science and exploration, the tone of coverage, particularly in terms of sensational headlines and social media influencers, has grown steadily worse. Current coverage often focuses on the "billionaire" space race without highlighting the value received on Earth from all types of space activities. Social media influencers will often post memes, commentary, and cartoons bemoaning wasted resources and how launch activities contribute to climate change. Not only can these narratives be inaccurate, they also fail to highlight the value received from satellite services, crossover technologies, and the advancement of scientific knowledge. In more traditional media outlets, headlines seek to highlight supposed drama, rather than factual occurrences. Companies, and even space agencies, fail to communicate the nature of iterative learning, and the news stories can convey "failure" rather than a more balanced approach [13].

Further, the space community seems unaware of the changing nature of media coverage of space activities. A poll of 181 audience members at the recent Summit for Space Sustainability showed that 20% considered this to be a problem. The majority of respondents focused more on the positive media that occurs along with the negative media. While there is certainly positive media coverage of space activities, particularly science missions, coverage of human space exploration, commercial industry developments, and private spaceflight is often incomplete and critical.

2.3 Notable, recent efforts for positive engagement between space and other communities

To highlight the extent of this problem, we can look to the recent example of the establishment and funding of Spaceport Cornwall in the United Kingdom. In 2019, the local government considered, and eventually approved a 10.3 million-pound grant to support the facility. This funding would support Virgin Orbit launching its European base of operations from the region. However, the proposal faced significant local opposition culminating in a large public protest outside city hall during a key council vote [14]. This demonstration, led by the environmental group Extinction Rebellion, highlighted the importance of getting community support for space activities. Spaceport Cornwall and space industry companies took note of the opposition and worked to educate, engage,

and convince their detractors by having conversations, a community exhibition [15], and working with local media.



Fig. 6. Spaceport Cornwall's exhibition designed to engage the local community on the value of space (source: The Guardian)

At a panel the Summit for Space Sustainability, Melissa Thorpe, the head of Spaceport Cornwall, spoke about [16] how, as a member of the community, she is constantly engaging with fellow citizens and emphasized the importance of storytelling within communities to understand the value of space and show that our industry is a sustainable, caring part of its local environment. This example highlights the extent of the problem – that the public needs to buy in to our goals at both the highest and most local levels and that this can only be accomplished through pointed and detailed engagement.

2.4 Methods, goals, and potential outcomes of building communities with other sectors

Space cannot exist in a communications silo, only speaking to other space stakeholders, but often it does. The comfort zone for much of our sector is to communicate with colleagues and partners — a captive and familiar audience. But there is a groundswell of other sectors taking an interest in space, and keen to get involved. Engaging outside the space comfort zone will open up new opportunities for collaboration, harness new technologies and capabilities and, perhaps most important of all, share important ambitions and impact of the incredible work happening every day in space. If we communicate outside of the space sector, more people can understand what we're doing, and why it matters.

2.4.1 Examples of successful multi-sector ecosystems/communities

The Start Network [17] is a humanitarian partnership of 55 non-governmental organizations (NGOs) and 7,000 partners. The network was designed to speed up funding for humanitarian response and tackle disaster management collaboratively. Members include NGOs with expertise in water and sanitation, housing, children, the elderly, and health care. The concept was simple — humanitarian response can't be tackled effectively by one organization, and shouldn't be delivered without the involvement of local communities. The group has successfully improved the speed, quality and effectiveness of disaster response through coordination, collaboration, and communications. Avoiding competition between NGO and local communities has resulted in better outcomes and clearer communications with those communities affected by disaster.

If we look for examples in space, the International Space Station (ISS) comprises multiple nationalities, funders and technical teams transcending borders, politics, and industrial competition to deliver this remarkable ecosystem. The ISS has inspired generations of young scientists to strive to become the next astronaut to join the program at NASA, ESA *et al.*

In the UK, the In-Orbit Servicing and Manufacturing (IOSM) Working Group [18] is a network of industry, funding, government, and academic stakeholders who are members of the UKspace trade association. The IOSM group was founded around 2018-2019 with only six members interested in developing the on-orbit servicing, assembly, and manufacturing sectors in the UK. It is now composed of more than 70 space and non-space experts, including robotics, nuclear, and solar energy experts, contributing to the growth of this dynamic new space economy. The IOSM group is developing sustainable technologies and capabilities in the UK using a multi-sector approach to decipher how to remove space junk, refuel space craft, build in-space servicing technology, and harness the sun's energy to power satellites in space.

A recent example of a global industry group working to provide a new perspective on a nascent industry is CONFERS, the Consortium for Execution of Rendezvous and Servicing Operations [19]. Initiated in 2017 by the U.S. Defense Advanced Research Projects Agency (DARPA) in an effort to drive the development of standards for satellite servicing, CONFERS has grown from 5 members at its founding to 60 in late 2022. The rapid growth of the group is evidence of the viability of the satellite servicing industry. Despite this picture of a growing market, the awareness of the value of the sector is still not clear, even within the space community. A significant portion of CONFERS

members are start-ups, making this a unique group to think creatively and broadly about outreach.

Overall, the commercial space industry is still in the early stages. Collaboration on messaging will raise the business prospects of all players; cut-throat competition will have a negative impact on all.

2.4.2 Principles and qualities of successful multi-sector ecosystems/communities

The following are recommended approaches to improve engagement with non-space communities.

Inviting people in

We're seeing the health care, AI, and quantum sectors take an increasing interest in space. If we open up the borders of collaboration we will continue to push new frontiers and see a faster pace of development. Young generations will look to gain skills that might be transferable within a few years.

Listening with purpose

Have you ever sat in a meeting only half listening? If we're not fully engaged in the conversation with new partners we'll miss the opportunity to find common ground. Embrace external players wholeheartedly, and give them the opportunity to express what they want from the partnership.

Finding a sweet spot for collaboration

If at first you don't succeed, it can be worth trying again. Collaboration with partners beyond our traditional comfort zone can take a few attempts. Perhaps start with something small and relatively low risk to see how skills, capabilities, and technology can be complementary. It's important to build the foundations of a team first before diving into major, expensive collaborations.

Agreeing on the rules of the game

Operating principles, timelines, deliverables, costs: these are all critical elements to creating a memorandum of understanding or agreement with sector partners. It's important that all sides stand to gain and respond to their interests and drivers.

Expect some failure

Space is hard — and collaboration and community-building are no exception. Some partnerships will bring about incredible new opportunities, while others might come to nothing. If we take some risks in how we look at space development, we will be sure to find some winning opportunities to combine knowledge and learning from different sectors to expand our horizons.

2.4.3 Principles and practices of empathetic engagement

The following are recommendations for better understanding the perspectives and experiences of end users and beneficiaries.

Listening with an open mind

As we look to strengthen our engagement with different stakeholders, it's important that we not only share information, but that we listen carefully. Stakeholder groups will have different perspectives and drivers for engagement with, contribution to, and gain from a partnership. If we consider our audience as partners, we're more likely to communicate with their needs and drivers when shaping messages. We can ask ourselves: what are they telling us they want to know, and where are they identifying gaps in information? The space sector has a vibrant community of citizen scientists and bloggers who ask challenging questions and pose important questions.

Understanding and acknowledging skills, expertise and ways of working

All stakeholders will have different strengths and knowledge, especially when we go beyond the borders of traditional space partners. It might take time to work our way through strengths, different ways of tackling challenges, and the desired results. Good communications from the get-go can help to lay out what each partner can bring to the table.

Tell people what they want to know

It seems obvious to say, but often we presume wrongly that our key audiences just want to hear about the technology, the costs, and the impact. Human stories can also tell us a great deal by painting a picture through the words of someone who was there, on the ground — or up in space. Empathetic engagement is about listening to what people want to know and turning that into a powerful narrative.

2.4.4 Messaging/positioning of space as a service/platform for non-space problem-solving

Space has been solving real world problems for many decades. We've harnessed space technology for robotics used in hospitals, and for surgical devices and ventilators during the COVID-19 pandemic. Space technology has been applied to mobile phone cameras, vertical farming techniques, the architectural design of skyscrapers, and the reduction of CO2 emissions. NASA scientists and engineers invent an average of 1,600 to 1,800 devices and release some 5,500 pieces of software a year, much of it without commercial gain [20].

But do people know this? We'd argue they don't. Very few people appreciate that much of space's contribution transcends distant orbits to impact our daily lives, right here on Earth. Space technology is used to make a real difference — take the 33 Chilean mining engineers trapped for two months in a cave in 2010. How many people know they were supported by a team of NASA psychologists who knew how people feel confined with anxiety in dark spaces they can't escape from? Likely a small portion of those who heard or read the rescue story — this was a lesser-told part of the coverage. Yet this is space empathy at its best [21].

2.5 Summary of Lessons for Creating Dialogue with End Users and Beneficiaries

There have been several examples raised throughout this paper of how to better engage with and understand the global community. Simply put, we need to be creative, stay informed, think broadly, and listen. Sticking to the same lines of communication and reaching to the same people who are already converts to the value of space will not work.

Instead, we must:

- understand the needs and challenges of end users through frequent dialogue.
- implement accessible and compelling programs and messages that highlight the openness of the industry.
- engage in large-scale outreach to the general public, which will help to humanize the industry and create a positive feedback loop.
- create advocates for the space industry among beneficiaries and partners.
- expand our outreach to under-represented communities and bring those demographics into the workforce.

2.6 Sharing stories of greater substance and broader appeal with news media and the public

If the space sector means to have greater impact on a variety of other sectors and industries, our community should look to other sectors for examples of substantive and broadly appealing storytelling and campaigns. Such storytelling can transcend the usual bounds of the space sector's meaningful engagement and bring other sectors — many of which serve as societally valuable partners to space — as well as more of the public to new levels of appreciation for and engagement with space.

Inspiration and examples for such stories can be drawn from several major sectors of society and industry, including climate and environment, energy, cybersecurity, economics, and healthcare. Indeed, several of the world's biggest news stories of the past

several years — including climate change, COVID-19, economic uncertainty, and green energy — have been driven in part by successful public awareness campaigns.

The following are examples of some of the stories and campaigns that proved effective in driving public awareness and action on multi-sector challenges.

2.6.1 Climate Crises

Stories and campaigns on climate change serve as a compelling template for space when it comes to transcending audiences and stakeholders of various geographic and societal interests. According to *The Nation*, climate change “should be a lens on everything in the same way the economy is. It intersects with the economy, gender, labor, health, food, sports, education, and every manner of social justice. There is no story on earth that isn't affected by climate change or affects climate change, or both [22].”

The Weather Channel, a property of IBM subsidiary The Weather Company, produced a three-part video series on California's dire water crisis, titled “Parched and in Peril [23].” To produce the series, The Weather Channel interviewed people who have lost their homes to fires, farmers struggling to produce crops, and firefighters facing increasingly dangerous blazes, among other perspectives.

CALIFORNIA FIRES, FUELED BY INTENSE DROUGHT, DEMAND NEW STRATEGIES TO FIGHT THEM



Fig. 7. Powerful imagery used to illustrate California's water crisis (source: The Weather Channel)

The emotional power of these personal moments and the striking visuals that accompany them, combined with factual data about California's water and temperature changes, are meant to drive broad awareness and urgent action. The series earned a 2022 Journalism Award from Covering Climate Now [24], a media partnership founded by the *Columbia Journalism Review*, *The Nation*, *The Guardian*, and WNYC.

2.6.2 Environmental Transparency

Environmental, social, and governance (ESG) issues have become a critical lens through which industry practices in a number of sectors are evaluated, and the demand for businesses to be more proactive and transparent about ESG topics is rising. One example of modern marketing principles being applied to specific and actionable environmental impact data is the 2030 Calculator [25]. This tool, created by environmental data services company Doconomy, allows businesses to calculate the carbon footprint associated with the products they create. The goal is to enable transparency and communication on impact of production; the tool also gives businesses a baseline for measuring improvement

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This free tool helps brands calculate the carbon footprints of their products

A full life-cycle analysis takes ages and costs a lot of money. The 2030 Calculator from Doconomy tries to simplify the process to give companies a better understanding of their full environmental impact.



Fig. 8. Media coverage of the 2030 Calculator (source: *Fast Company*, Doconomy)

Doconomy worked with brand and marketing agency Farm Stockholm to create a design for data and information presentation that makes it easy and fast for large and small companies alike to assess their carbon impact. The 2030 Calculator has garnered several international awards for creative communications and new ideas; partnered with organizations as diverse as the United Nations, Oxford University, and Mastercard, and covered in outlets such as *Fast Company* and *Forbes*, the calculator also represents cross-sector collaboration and appeal.

2.6.3 Public Health and People in Need

COVID-19 has been almost unmatched as a narrative of global transcendence and impact over the past two-plus years. There are a great number of stories on COVID's effects on human health, the economy, and the new nature of social interactions, along with a multitude of action-oriented campaigns aimed at education, risk-reduction, and related implications of the pandemic's consequences.

One of those related implications in some areas was problems with access to food during lock-downs, and a collaboration between UK-based food charity FareShare and creative agency Greenhouse sought to bring attention to this challenge across the UK. Working with celebrity partners and engaging news media, the campaign resulted in donations for an additional 400,000 meals, coverage in outlets such as the *The Mirror*, *Good Housekeeping*, a PR News award for “Best Ethical or Good Cause Initiative During the Coronavirus Crisis,” and an acknowledgement from Queen Elizabeth II [26].

PRWeek UK Awards Winners 2020: Best Ethical or Good Cause Initiative During the Coronavirus Crisis

FareShare's campaign to raise funds and recruit volunteers, by Greenhouse PR, grabbed the attention of celebrities - including the Queen - to more than double its vital meal delivery service during the COVID-19 crisis.

by PRWeek Staff



Fig. 9. Coverage of an award win for FareShare's COVID food drive campaign (source: PR News)

2.6.4 Qualities of sector-transcendent storytelling/coverage

The examples outlined to this point in section 2.6, reinforced by several characteristics outlined elsewhere in this paper, illustrate a number of qualities inherent to sector-transcendent storytelling and campaigning:

- *Connection*: each of the stories and campaigns mentioned above contains intersections of several meaningful perspectives on or elements of human endeavor and experience.
- *Expertise*: in each of these examples, expert communications and marketing professionals helped guide the creation of narratives, campaigns, and calls to action, and in some cases, celebrities and others trained in storytelling were involved, as well.
- *Action*: provision of information is an incomplete approach to storytelling and awareness campaigns — the examples above also incorporate a clear, strong call to action.
- *Emotion and intellect*: the power of emotional appeals — the true driver of human action — is present in each of these examples, accompanied by supporting data, which serves as the rational justification for chosen actions.
- *Cross-sector collaboration*: in the presented examples, a clear contributor to success was input and investment across commercial,

government/intergovernmental, non-profit, and academic organizations from various sectors, along with the involvement of interested and affected individuals.

- *Outward orientation:* none of the examples mentioned above ultimately focus on the storytellers or campaigners themselves, but on outcomes for the communities with which they're engaging.

3. Conclusion

A Guide for Value and Empathy in Engagement

Equipped with insights on the state of our sector's engagement with other communities and the public at large, and with best practices from successful engagement in other sectors, we can now chart a course to improvement.

The following serves as a guide for space to increase the substance and value transfer of our relationships outside of our industry:

1. Reflect on where we stand

It is critical for space companies, agencies, and other organizations to engage in some self-assessment before engaging with other communities, industries, and the public. How do those other communities already perceive our industry or specific organizations within it? Knowing the answer to that question presents a baseline of information from which to engage in more resonant and meaningful ways. Methods to inform such reflection include:

- surveying
- social media mining for trends and sentiment
- media sentiment and coverage
- research on previous space industry partnerships and results

2. Engage with genuine interest and investment

The most meaningful and enduring relationships with other sectors and the public will be based on an authentic interest in their perspectives and needs. Avoid initiating a relationship with the assumption that our sector will be of inherent interest and value. Instead, emphasize:

- town hall-style meetings or listening sessions
- social engagements and other relationship building opportunities
- targeted investments of time, money, and other resources into relationship building in areas of mutual interest and value

3. Focus on the stories and success of the community

It is tempting to frame success as a matter of how much space gains or is elevated and praised in the process. However, enduring value can be created when we instead highlight the success of our partner communities as a whole, with the contributions of space serving as a means or a vehicle to that success. Such highlighting can include:

- Problem-solving, collaboration, and celebration events
- Joint campaigns in news and social media
- Creation or use of media and platforms for storytelling
- Creation or use of community or sector awards programs and traditions

4. Prioritize the aspirations and pain points of the community

As these relationships are established, opportunities to become deeply familiar with partner challenges and desired outcomes will present themselves. This is an incredibly valuable opportunity for the space sector to truly understand ways in which current applications might provide immediate benefit, or could be evolved or even revolutionized to provide even greater positive outcomes. These insights can be gathered in a variety of ways, including:

- targeted and well-promoted engagements on topics of community interest
- regular dialogue and problem-exploration sessions
- mass information gathering via social media and related tools
- personal profiles of community members, including their challenges and the potential solutions being pursued
- equipping partner community members to easily serve as well-informed advocates
- creating venues for under-represented communities to bring new ideas and new perspectives, as both partners and talent for our sector

5. Emphasize substance in stories and outcomes

The investment in relationship building via steps 1-4 above should inform a powerful focus on the most substantive outcomes for partnerships. Work at this point should therefore emphasize those results of collaboration that make the most significant impact on the community as a whole, and on storytelling and campaigns that use emotion and data to inform, inspire, and move audiences to action. To help ensure the strongest outcomes, consider:

- executing collaborative campaigns in partnership with PR and communications professionals
- creating user-friendly and practical tools and products for community problem solving, powered by space-based solutions and data
- cultivating relationships with news media and providing them with clear and compelling stories of your partner community's challenges and triumphs — including the voices of those partners.

Engaging with the wider public has always been an essential, if sometimes overlooked, component of successful space exploration and utilization. On July 22, 1969, two days after the successful Apollo 11 Moon landing, Wehrner von Braun acknowledged as much, saying that “without public relations and good presentations of these programs to the public, we would have been unable to do it [27].” Space is much more of a commercial business now than it was 55 years ago, but the need for broad understanding of and support for the industry is just as important, if not moreso.

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