IDC Middle East, Africa and Turkey, Dubai Internet City, Building No. 8, Suites 203, 105 and 106, Dubai, United Arab Emirates (UAE), P.O. Box 500615. Tel: +971 4 391 2741
Fax: +971 4 391 1922

WHITE PAPER

Smart Sports

Sponsored by: Cisco

Margaret Adam Mark Walker

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INTRODUCTION

June 24, 1995, Johannesburg, South Africa — a day that may not leap out as particularly significant to most of the world but a day that significantly and positively impacted the country's fledgling democracy.

South Africa had only been readmitted to international rugby in 1992, following negotiations to end apartheid, and the 1995 Rugby World Cup was the first major sporting event to take place in post-apartheid South Africa.

Not only was South Africa hosting the Rugby World Cup, but, astonishingly, given the fact that the country was emerging from years of isolation from international sport, the national team made it to the final. Moreover, South Africa faced the intimidating national team of New Zealand, the All Blacks.

What was even more incredible about this particular final was that, for the first time in the country's turbulent history, the vast majority of South Africans were behind a team that had been seen for many years as a symbol of an oppressive past.

In shacks, shops, homes, bars, streets, and cafes — in fact, anywhere with a TV — South Africans of all ethnicities, social classes, and economic backgrounds were watching what was, unbeknown to the world at large, one of the most important events in the country's history. The game itself came to an exciting end, with a goal (in rugby terms what is known as a drop goal) in extra time securing the win for South Africa.

The incredible politically inspired buildup to the event, which operated under the motto "One team, one country," had successfully ensured that almost the whole country was watching, and, when South Africa won, the whole country was jubilant. This mood lasted far beyond the actual game, setting the stage for a new and far more optimistic and more unified South Africa.

The extent of the impact was nicely summed up by a comment made in a post-match interview, when an SABC reporter, David van der Sandt, commented to Springbok captain Francois Pienaar: "Francois, we had 65,000 South Africans here today, tremendous support." To which Pienaar replied, "David, we didn't have 60,000 fans behind us today; we had 43 million South Africans."

At this point, you may be wondering what relevance this story has within the context of a technology white paper. Consider, however, what would have happened had

there been no TV, the smart technology of its day; or, had the millions of South Africans, so transformed by this moment in history, not been able to witness their president holding the cup — a scene that would become a symbol of hope and optimism. What a loss it would have been if this occasion had only been limited to the 60,000-odd fans lucky enough to attend the final match.

Consider how much more impact this lesson could have had in the Internet Age. Imagine, the whole world could have experienced — through social media, live streaming, and video TV — the footage of a people previously so divided celebrating together in the streets. Imagine if the fans could have replayed and shared footage of the drop goal that secured the win in such an exciting finish. The ability to share, replay, and relive such a positive moment could have had a significant impact in an increasingly globalized Internet world. Its lessons would have been universal.

Fifteen years later and South Africa has hosted one of the world's most watched sporting events — the 2010 FIFA World Cup. In an age when the Internet plays such a significant role in society, South Africa was given the opportunity to fully leverage this global exposure.

And South Africa is not alone. Increasingly, we are seeing countries such as China, Brazil, Russia, Poland, Ukraine, Qatar, United Arab Emirates, Mexico, and many more bidding to host mega sports events. These countries are generally categorized as developing and, as such, require significant investment to build up the capabilities and capacities to support these mega sports events.

Awarding an event of the magnitude of the 2010 FIFA World Cup to a developing country like South Africa comes with its own challenges. From public safety to infrastructure to communications, a developing country has significant hurdles to overcome to host such an event successfully.

While the short-term benefits for these countries are fairly easy to identify and, to some extent, to monetize — for example, increased tourism and related expenditures and increased exposure and investment — the longer-term benefits are not always that easy to assess and are often debated. Any decision to host a mega sports event needs to take into account both short- and long-term gains to justify the significant investment required.

The challenges facing the organizers are also enormous: Stadiums are clearly top of mind, but consider the impact on public safety, transportation, telecommunications, hospitality, and other infrastructure. These challenges are compounded by the pressures placed on the government and organizing bodies to execute these investments quickly and efficiently in order to finish in time for the event; additionally, of course, they get only one shot at live coverage to an expectant world.

Technology can help address some of these challenges and has an important role to play in the context of hosting a mega sports event. It can maximize exposure, thus increasing revenue for the host country or community. It can also support reductions in expenditure by supporting the streamlining of services and processes. Through the creation of new and technologically inspired fan and citizen experiences, it can also

significantly differentiate the actual event. Nevertheless, one critical point to consider is whether technology can impact the long-term sustainability of such investments.

IN THIS WHITE PAPER

In this white paper, IDC examines the opportunities for smart-enabled* sports events — in other words, the role that smart technology solutions, or connected technology, can play in assisting communities that are hosting such events to address critical developmental areas such as communications, security, transportation, facility management, community outreach, and a wide array of other objectives.

*Note: The adjective "smart" used in this IDC White Paper refers to the concept of an intelligent network created by interconnecting different communication and information technologies. It also applies to environments that leverage this communications infrastructure as a platform to enable the provision of new services with enhanced interconnectedness, increased efficiency, and greater utilization of the system for all entities connected to it.

Employing smart technology solutions in such events enables the multitude of stakeholders involved to achieve a multiplication effect while harmonizing their often divergent objectives. The stakeholders range from government, planning bodies and committees, urban planners, investors, public safety personnel, and telecommunications companies to event planners, hospitality and tourism entities, and media companies.

The insights in this IDC White Paper are largely drawn from IDC's existing knowledge base and research into IT and communications markets, as well as from in-depth research conducted by IDC into smart city developments in the Middle East and Africa.

As part of this paper, IDC also analyzes the following elements of Cisco's Smart+Connected Communities (S+CC) and how they apply to a mega sports event:

- Community+Connect
- Community+Exchange
- Smart+Connected Stadium
- Smart+Connected Real Estate & Hospitality
- Smart+Connected Transportation
- Smart+Connected Safety & Security

Methodology

IDC analysts conducted research to gain insight into the technologies, investments, and socioeconomic trends that impact the staging a mega sports event such as the 2010 FIFA World Cup and the outcomes associated with doing so.

Analysts drew on research around technology and sustainability (in terms of future economic and social use of infrastructure and facilities built for such events, as well as in relation to environmental impact) in mega sports events and leveraged IDC's existing research on smart cities.

Analysts were also briefed by Cisco representatives on Cisco's vision and solutions — Smart+Connected Communities, Smart+Connected Sports Events, Smart+Connected Safety & Security, and Smart+Connected Transportation.

Research centered on recent and future mega sports events, including, but not limited to, the 1995 Rugby World Cup in South Africa (Rugby World Cup 1995), the 1996 Africa Nations Cup in South Africa (Africa Cup of Nations 1996), the 2000 Olympic Games in Sydney, Australia (Games of the XXVII Olympiad), the 2006 FIFA World Cup in Germany (2006 FIFA World Cup), the 2006 Asian Games in Doha, Qatar (XV Asiad), the 2008 Olympic Games in Beijing, China (Games of the XXIX Olympiad), the 2010 Winter Olympic Games in Vancouver, Canada (XXI Olympic Winter Games), the 2010 FIFA World Cup in South Africa (2010 FIFA World Cup), the 2010 Commonwealth Games in Delhi, India (XIX Commonwealth Games), the 2011 Rugby World Cup in New Zealand (Rugby World Cup 2011), the 2012 Olympic Games in London, the United Kingdom (Games of the XXX Olympiad), the 2012 UEFA European Football Championship (Euro 2012, Poland + Ukraine), the 2014 Winter Olympic Games in Sochi (XXII Olympic Winter Games), and the 2014 FIFA World Cup in Brazil (2014 FIFA World Cup).

The scope of this study is to assess the possible impact smart and connected technology may have in terms of supporting the planning, staging, management, and subsequent ongoing economic contribution of a mega sports event within a region, particularly in a developing country market environment.

The research thus focused on the impact and ongoing sustainability of technology-based solutions on the following areas:

- Ticketing, travel, and accommodation
- Security, surveillance, and risk control
- Event administration
- Sustainable community benefits
- Transport and logistics
- Media and communications

Situation Overview

The emergence of what the industry terms "smart technology" has been driven by the increased importance of the Internet in our daily lives.

Whereas, initially, business functionality like online banking and corporate communication needs drove the usage of the Internet, the mass adoption of social networking and ecommerce has transformed the Internet from a business tool to a consumer medium.

We are now entering the next phase of the Internet — one in which both the number and type of devices connected to the Internet are growing exponentially and the dependency on it and usage of it in different industries (e.g., healthcare, education, entertainment, media, and government) are becoming more widespread. Simultaneously, increased urbanization is accelerating the requirement for communities to develop. As they grow, they increasingly struggle with a variety of complex and conflicting priorities, particularly safety and security and the efficient delivery of government services, education, and healthcare.

Smart, in the context of technology, is a concept that is constantly evolving. Most experts tend to agree that the heart of a smart community lies in how "connected" it is. Essentially, a smart community is generally viewed as a community in which every IP-enabled device can communicate and be managed through a central command and control center and through which tenants, residents, and visitors can access real-time information about their environments at any time and from anywhere.

Within every community (smart or otherwise), security, facility management, community outreach, transportation, and communications are critical areas of focus.

For communities hosting a mega sports event, these fundamental community features become even more critical, as do additional aspects such as hospitality, logistics, media and advertising, and event management.

Connected technology can positively impact all of these areas, some of which are outlined below.

Public Transportation

Public transportation is a critical area of focus within both developed and developing markets and a key area of concern for countries hosting mega sports events.

The important role public transportation plays at both a community and national level is clearly illustrated in the quotation that follows. In the foreword to a white paper produced by the Department of Transport (U.K.) in 2004, *The Future of Transport: A Network for 2030*, then British Prime Minister Tony Blair wrote: "Good transport is essential for a successful economy and society. It provides access to jobs, services, and schools, gets goods to the shops, and allows us to make the most of our free time. Yet our transport system has suffered from decades of under-investment. We are working hard to reverse this damage and to deliver the environmentally sustainable, reliable, and safe transport system this country needs."

These investments can be maximized through the use of technology, which, for example, can provide real-time updates on arrival and departure times for multiple public transport platforms (e.g., preemptive SMS alerts), alternate routing information, mobile trip advisory services, integrated location-based information services (e.g., the location of the nearest shopping malls, entertainment venues, sports bars, and corporate hospitality tents), community alerts and security warnings, targeted marketing campaigns, and live commuter feedback utilizing social media platforms.

Investment in transportation infrastructure to support the hosting of a mega sports event can provide the host community with a sustainable investment that will add significant value to citizens, both during the event and after. These investments can also add enormous additional value, particularly within the context of a mega sports event.

Travel

A smart-enabled airport can also significantly improve the visitor experience at a mega sports event; for example, by welcoming the visitor on arrival; providing personalized services, such as lounge access or complimentary meal services during a delay; enabling targeted marketing centered around the event, such as loyalty discounts and information on the availability of merchandise; providing live information feeds on weather, traffic, and potential delays; supporting information services, such as optimum routes through the airport and other travel advice; and providing preferential treatment (e.g., for frequent flyers on airline loyalty programs). Hotel, car rental, and taxi companies can also receive alerts and proactively respond to potential delays.

Low-cost contactless ticketing systems can provide valuable data on ticket types, passenger preferences, and travel patterns and can facilitate targeted event-driven marketing and loyalty initiatives.

Radio frequency identification (RFID) solutions and integration with mobile devices can add significant value by enabling fans to efficiently track and manage travel and to check in quickly at the airport or hotel or to enter the stadium.

There is a sustainability element to this, too, as smart airports (but also smart subway, metro, and train stations) significantly improve operational efficiencies and passenger services and can deploy advanced security capabilities that add value to the community long after the mega sports event has finished. Investment in these areas significantly enhances visitors' experience of the country and, if designed with future visitors in mind, can differentiate the country as a preferred travel destination.

Security

Security, surveillance, and risk control represent another area in which a smart technology platform can provide significant value. A mega sports event is possibly one of the most targeted environments that exist for crime in general and terrorism in particular. Organizers have to plan well in advance and consider the entire chain of command — strategic, tactical, and operational. Security strategies need to focus on incident areas (e.g., stadiums, other venues, athlete villages, public transportation, and recreational sites), as well as on broader response networks to cover the entire city or, in some cases, even the entire country. In a smart security environment, multiple media forms should be used (e.g., digital signage, surveillance cameras, and mobile devices). These enable the combining and coordination of various information streams in order to increase speed and precision in decision making and drive information and results to the people who need them, in the format they need them, in real time.

The unifying properties of a smart security solution can add significant value to the community hosting a mega sports event. The benefits obviously extend far beyond the actual event, and, as governments increasingly focus on safety and security, investing in the proper and most sophisticated infrastructure up front can have long-term sustainable benefits for the community at large.

Advertising, Media, and Broadcasting

Another area that can benefit from smart technology within the context of a mega sports event is that of advertising, media, and broadcasting. In this regard, local service providers have an important role to play in enabling media coverage of the sports event.

Organizers need not only to capitalize on the multitude of communication platforms available to enhance the stadium experience, but also to extend this experience out to a global community. A smart-enabled environment can provide significant depth to communications in and around a sports event — from digital signage, targeted advertising campaigns, and live streaming to interactive telepresence sessions and customized viewing opportunities at the venue (e.g., enabling the fan to choose preferences for camera angles, commentators, venues, and interviews).

Media and journalists can also benefit from such technology. High-speed connectivity and sufficient bandwidth for reporting can result in better coverage of the sports event and benefit the host community or country. The same applies to broadcasting, which is consistently one of the largest areas of investment in a mega sports event. Investing in sufficient infrastructure, particularly in terms of a network optimized for extreme video traffic and rich media applications, can vastly add to the quality and breadth of event broadcasting.

Visibility into the fan's end-to-end experience enables companies to capitalize on marketing opportunities, enhance and personalize services, improve efficiencies, and significantly enhance and expand the event's reach.

Given that one of the major drivers behind the decision to host a mega sports event is the exposure the host community receives, it makes sense that hosts look at maximizing this exposure by leveraging the capabilities and opportunities offered by multiple media technology.

Facilities and Community Development

Finally, mega sports events, particularly those hosted in developing countries, often result in the building of new facilities and sometimes in the creation of new communities. If done smartly, these developments can add a lot of sustainable value to the community. An innovative example of such a development was the initiative taken by the South African government during the 1996 Africa Cup of Nations, when sports facilities and a soccer village in Alexandra, Johannesburg, were designed with post-event utilization and the long-term sustainability of the facilities in mind. The grandstand constructed for the qualifying matches and the soccer village, which housed the participating athletes, were later converted into a community center and a low-cost housing scheme for local citizens.

Communities and countries hosting mega sports events are provided with the unique opportunity to create smart, modern communities and facilities designed with future usage and broader community benefits in mind.

Challenges

While the potential advantages of investment in smart-enabled mega sports events for a country's development are easy to identify, the implementation of such a strategy can be challenging.

Obviously, while the availability of capital, allocation of budgets, and preparation time have to be taken into account, other factors need also to be considered in order to implement such a strategy successfully. These include:

- Selling the vision — in other words, the provision of salient facts and relevant case materials to provide insight into the realizable benefits of such investments
- The management of stakeholders' expectations
- Securing investments without definitive return on investment (ROI)
- Long planning cycles
- The complexity and scale of implementation
- Identifying sustainable and future-proof technologies
- The prioritization of investments
- Existing and future communications infrastructure
- The existence of a multitude of stakeholders
- Infrastructure ownership

Sustainability challenges also need addressing during the planning process; these include:

- Technical maintenance and support post-event in terms of the availability of technical personnel and service providers commissioned to ensure ongoing operational availability of the technology
- The availability of ongoing funding to sustain the newly developed infrastructure and provision of services, given that the cost of "keeping the lights on" in subsequent years typically exceeds the initial acquisition cost
- Long-term total cost of ownership (TCO) and ROI considerations
- Ensuring adequate usage of the technology after the event in terms of providing training and incentives for the community to maximize continued utilization of the technology

IDC does not believe these challenges are insurmountable. Careful planning in terms of a clearly defined strategy and a detailed implementation plan at a community level would limit their impact. However, these need to be defined very early on in the planning process to ensure sufficient time for implementation and buy-in from various stakeholders; ideally, they should be done in collaboration with a defined set of technology partners.

It is also critical that detailed analysis be undertaken during and after the event to assess the level of sustainability of related investments. This analysis should consider aspects such as time and budget adherence, numbers of users (both during the event and afterward), the impact of the investments on fiscal budgets, and whether or not such investments have the potential to support job creation.

Cisco Profile and Solutions for Mega Sports Events

Considering both the growing importance of mega sports events to economic and social development and the critical enabling role played by smart technology solutions, a number of ICT vendors have been developing solutions to address this area.

One of the key vendors is Cisco, which has structured a range of solutions to target this emerging opportunity grouped under the vendor's Smart+Connected Communities (S+CC) vision.

The evolution and increasingly important role of the Internet underpin Cisco's vision of smart technology solutions and their deployment. The vendor looked at how increased connectivity could be leveraged to drive economic development and investment, more efficient city management, and improved quality of life; identified specific areas of the community that were likely to benefit most; and designed solutions accordingly.

At the heart of Cisco's Smart+Connected Communities strategy lies what it calls "The Network as a Platform" — in other words, how to put the network at the center of community planning. This concept implies more than just connecting community functions over a network; it means planning them holistically as connected functions — namely, leveraging the network to achieve community goals such as better city management, higher quality of life, economic development, and increased investments.

Cisco's Smart+Connected Communities brings together a large set of partnerships, products, services, and solutions to address these opportunities using The Network as a Platform.

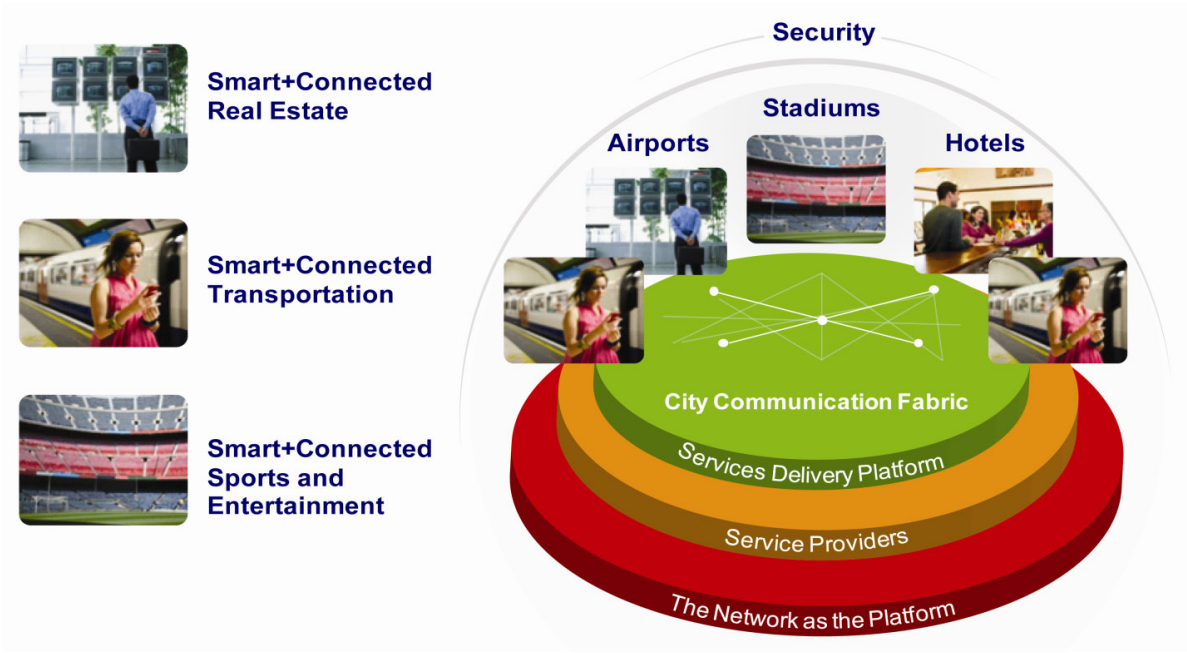
Cisco's Smart+Connected Communities strategy provides what Cisco terms a "Community+Connect" experience for the constituents (residents and businesses), as well as an operational aspect, which it terms "Community+Exchange" for those who manage the community.

With the network as the underlying service delivery platform, Cisco and its partners aim to deliver services for the home, work, schools, hospitals, malls, stadiums, travel, and government allowing a "Community+Connect" experience, through a back-office operational center for the day-to-day operation and management of the community to facilitate collaboration in terms of utilities, transportation, telecommunications, safety and security, building systems, and government social services through its "Community+Exchange."

Cisco's Smart+Connected Communities is an umbrella initiative for a number of more specific solution areas, namely Smart+Connected Real Estate & Hospitality, Smart+Connected Utilities, Smart+Connected Transportation, Smart+Connected Safety & Security, Smart+Connected Learning, Smart+Connected Health, and Smart+Connected Government.

FIGURE 1

Cisco Smart+Connected Community



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Cisco Smart+Connected Sports Events

This combines connectivity and value-added services and is promoted as a means to add additional value for fans, athletes, organizers, and the community at large. Playing on its Network as the Platform strategy, the solution essentially consists of a set of services delivered through the community's communications fabric, namely,

Smart+Connected Stadium, Smart+Connected Real Estate & Hospitality, Smart+Connected Transportation, and Smart+Connected Safety and Security.

Cisco Smart+Connected Real Estate & Hospitality

Real Estate

This looks at a means of combining a set of specific solutions for building resource management and enhanced services provision for tenants and visitors in order to increase operational efficiencies and provide enhanced experience to tenants and visitors.

Hospitality

This solution was designed around the high priority placed on connectivity within the hospitality environment and include solutions designed around customized content and entertainment and advanced connectivity and communications (e.g., wireless everywhere, audio and video conferencing, and digital signage), as well as the provision of customized services and marketing messages. Solutions also include the convergence of building management systems — or converged management of aspects such as elevators, security, lighting, and HVAC, or heating, ventilation, and air conditioning — thus increasing the operational efficiencies of these establishments, as well as leveraging connectivity to enhance the experience of guests and visitors.

Cisco Smart+Connected Stadium

This solution is designed around the ability of stadium facility management to centralize operations, as well as control, target, and mix various types of video content. Cisco's proposition to these stadiums focuses on how, through using the Network as a Platform, organizers can enhance the fan experience — for example, facilitating the upgrade and reselling of tickets, enhancing merchandising, and utilizing digital signage and mobile solutions to provide information such as directions to seats. One key component of this proposition is Cisco's StadiumVision solution, which enables multiple high-definition video monitors and digital signage to be customized for a particular event. This solution integrates with handheld devices, enabling access to and replay of video content.

Cisco Smart+Connected Transportation

This solution makes use of the IP-enabled Urban Services Platform, which is designed to manage traffic flows and integrate multiple modes of transportation so as to facilitate more seamless transportation and increase the productivity and sustainability of a community's transportation network.

Cisco Smart+Connected Safety & Security

This initiative is positioned to provide a means for safety and security agencies to connect citizens to authorities and authorities to each other. It focuses on six architectural building blocks: incident collaboration, mobile workforce, citizen-authority interaction, sensing and actuation, mission-critical network design, and command and control. Cisco positions this as a means of collaboration in terms of processes and

isolated organizational domains across headquarters, operations (including emergency operations), incident command, and field personnel through a secure, intelligent, and converged network.

In its messaging, Cisco focuses not only on the benefits each solution can provide to the particular solution area (e.g., hospitality), but also on the economic benefits that can be derived from increasing operational efficiencies and how these solutions can enhance the experience of citizens and provide sustainable value to the community at large.

IDC OPINION

Cisco actively targets the emerging opportunities derived from the deployment of smart technology solutions at mega sports events. The additional value to society of smart technology infrastructure derives to a degree from mutual interconnectivity, and Cisco, being a connectivity company that deploys smart technologies, can naturally deliver this extra smart/intelligent connectivity.

Nevertheless, the complexity and scale of these solutions often mean that no vendor can achieve all of the above alone and that successful implementation requires constant development, partnership, and collaboration with a variety of organizations.

The variety of stakeholders and the high-pressure planning cycles involved in a mega sports event mean that Cisco and its partners need to engage very early in the typical planning process in order to convince a multitude of stakeholders of the benefits of leveraging investment in network infrastructure across the host community and in multiple environments and to try to convince these stakeholders to collaborate in terms of a holistic strategy with regard to the technology supporting the event in question.

In IDC's opinion, in order to successfully target such a diverse range of stakeholders, Cisco needs to continue to showcase sector-focused solutions, illustrate tangible and proven benefits within each of them, and also communicate the longer-term benefits at a community level.

This requires deep understanding of the economic and social challenges these host communities face and necessitates investigating the ways in which such technology investment can be leveraged after the event which will require extensive collaboration between Cisco, its partners, and all the relevant stakeholders within the community.

In order to position its S+CC solutions at the community level, Cisco should focus on the benefits of each in terms of sustainability, quality of life, and economic development. IDC believes this communication approach is critical to enabling communities and organizers to visualize the benefits involved in real terms.

Cisco may face challenges in convincing stakeholders of the benefits and securing initial adoption in an environment in which the organizers have only one chance to get it right. The ability to showcase real examples of these solutions will be critical in convincing such a variety of stakeholders.

Cisco has a number of public engagements in this area, including participation in the development of a number of sports stadiums and official partnership in the 2012 Olympic Games in London (Games of the XXX Olympiad), having already secured references from participation in the development of the 2008 Olympic Games in Beijing (Games of the XXIX Olympiad) and the 2010 Winter Olympic Games in Vancouver, among others.

As the number of real case studies continues to grow, Cisco is likely to build on its previous success and look at holistically implementing the concept in future mega sports events. Its biggest challenge lies in communicating the benefits to broad audiences when the decision makers have limited background in technology. Success will require significant initial investment in terms of education and selling its vision of smart solutions.

In addition, IDC believes that, if Cisco conducts detailed post-event analysis and is able to provide relevant statistics and best case practices on the basis of its previous engagements, it will be more likely to convince organizers and host countries to collaborate early.

From Cisco's perspective, such early collaboration is critical to communicating the role of the network as the underlying platform for these solutions. In order to fully realize the potential of the vendor's S+CC solutions, the network needs to be secure, responsive, agile, and powerful enough both to achieve the objectives of the event and to support the community's long-term economic, social, and environmental goals.

FUTURE OUTLOOK

The sheer scale and complexity involved in the preparations for hosting a mega sports event mean that, in order to implement and leverage the advantages of smart solution technology effectively, a coordinated holistic approach is required — one involving a diverse range of stakeholders.

This necessitates a new way of thinking for government officials and organizers, and technology companies will need to educate and showcase their initiatives in order to fully realize the full potential technology can provide within the context of mega sports events.

Nonetheless, while smart sports solutions are an emerging technology, pockets of innovation are already occurring and technology companies such as Cisco are increasingly engaging with organizers and governments in future host countries in order to ensure they are able to collaborate early enough to influence technology investments.

From an organizer's perspective, hosting a mega sports event provides a significant opportunity for strategic investment. However, in order to derive real value, the related decisions need to be considered with a view to sustainability — in other words, the extent to which these investments can both improve the quality and experience of the actual event and enhance the potential to achieve future economic, social, and environmental benefits after the event.

Investing in future-proof technology can significantly aid such sustainability initiatives. As such, event organizers should engage with technology companies early in the planning process to define a strategy jointly.

This planning process should involve the development of a roadmap, or a blueprint, outlining critical investments and assigning ownership — a definitive implementation plan that is aligned to other social and economic development plans (e.g., for the building of new stadiums).

Finally, a need also exists for post-event evaluation to determine the economic benefits of hosting the event, the impact on community residents and visitors during the event, and the implications for residents in the future.

Conclusion

Sport can transcend borders, both physical and artificial, and unify diverse communities — a truth never proven more absolutely than during the 1995 Rugby World Cup. In his book, *Playing the Enemy: Nelson Mandela and the Game That Made a Nation*, John Carlin wrote: "Sport has the power to change the world. It has the power to inspire, the power to unite people that little else has."

The evolution of civilization's ability to communicate — from the spoken word, to print, to telegraph, to radio, to television, and, now, to the Internet — has resulted in information becoming increasingly more accessible, faster, and richer. The Internet, as a communication medium, transcends borders and has truly become a platform for global communications. Many believe that the Internet can, if leveraged properly, be an agent of social change. In this context, it makes sense that the Internet be used to leverage the positive social impact of sport and apply it to a broader social agenda.

This combination creates a uniquely powerful platform, and, in IDC's opinion, developing a smart and connected strategy when planning a mega sports event enables the host community to significantly differentiate itself in the eyes of both visiting fan and the world at large. More importantly, such investments, if planned well, can provide future-proof and sustainable infrastructure for the legacy of the community in this technology-driven modern world.

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