SAUDI ARABIA

SMALLCELLS WORLD SUMMIT

2024

In the first Small Cells World Summit focused on the MENA region, you can expect to deep dive into content that will showcase global best practice and innovative solutions tailored to the Middle East market.

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What our members say

SCF members unite innovative technology and business models with global best practice regulation to drive future-proof service delivery.

"Participation in SCF has facilitated our deeper engagement in the technical and regulatory aspects of small cell development. Additionally, we have identified collaboration opportunities with small cell industrial partners."

Dr. Khalid Al Mashouq Chief Technology Officer — ACES

"Whether it is advocating on behalf of infrastructure providers and suppliers, promoting suppliers, educating the public, developing specifications, or addressing gaps, SCF works thoughtfully and timely to reduce complexity and communication costs."

George Aguilera Systems Architecture — CROWN CASTLE

"We find great value from participation in Small Cell Forum. SCF develops important technical specifications and supports marketing and regulatory work. The 5G FAPI specifications from SCF provide the industry standard 5G PHY/MAC interface, allowing easier implementation of Open RAN solutions for a wide range of base station categories. A particular Open RAN solution among these is the case of O-DU L1 fully supporting the Open Fronthaul O-RAN architecture."

Jack Nasielski Senior Director, Qualcomm Standards — Qualcomm

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AGENDA AT A GLANCE

SCWS Saudi Arabia will focus on the intersection of technology and policy, from overcoming connectivity challenges – for example in rural and remote areas – to exploring how advanced network architectures can support sector-specific digital solutions in verticals such as stadiums, venues and public spaces

TUESDAY 19 NOVEMBER

Opening session

Opening address from SCF
Simon Fletcher, Conference Chair and SCF Chief Strategy Officer

Fireside chat: SCWS Saudi Arabia overview
Simon Fletcher, Conference Chair and SCF Chief Strategy Officer
Omar Abdulaziz Alrasheed, SCF Board Member and GM, Commercial Excellence Tawal
Dr Khalid Al Mashouq, SCF Board Member and Group CTO & Vice-Chairman, ACES

Unlocking digital transformation: Challenges and opportunities for the Middle East
Abdulrahman Al-Moaiqel, CCO, TAWAL

Small cell requirements for giga projects MENA
Mansoor Hanif, Executive Advisor, Darabase

Indoor Connectivity in the 5G Era: A Regulator's Perspective.
Dr. Muhammad Alrabeiah, Research and Innovation Consultant, Communications, Space and Technology Commission of Saudi Arabia (CST)

Aligning with MNO Expectations: Future-Proofing Neutral Host Infrastructure
Dr Akram Aburas, Group CEO, ACES

Lunch Break

Small cell for dense outdoor and indoor: Saudi market adaptation
Abdulrahman Aleidi, Lead Specialist – Commercial Planning, TAWAL

Panel: Spectrum sharing challenges
Ali Aljitawi, VP, Mobile Networks, Saudi Arabia Nokia
Majed Alkhouly, Director of Spectrum Regulation and Allocation, Communications, Space & Technology Commission CST

Global Small Cell regulations and recommendations for the Middle East
Ali Ahmed, Research and Development Manager, ACES on behalf of the SCF Regulation and Policy Group

AGENDA AT A GLANCE

WEDNESDAY 20 NOVEMBER - MORNING

Session: Components to enable small cell deployments

Open RAN the enabling pathway to 6G
Munish Chhabra, Head of Mobility Software and Services Business, Radysis

DAS hybrid solutions enabled by O-RAN architectures
Rayan Hamze, Director of Sales, MEA, DAS and Small Cell Solutions, CommScope

Neutral host networks: The winning formula for 5G coverage extension and private network success in the USA and UK
Stefano Baioni, General Manager EMEA and Asia, Airspan

Panel: 5G Small Cell Open RAN evolution towards 6G
Gaurav Sharma, Head of Business Development for APAC and Europe, Radysis
Stefano Baioni, General Manager EMEA and Asia, Airspan Networks
Dr Khalid Almashouq, Group CTO & Vice-Chairman, ACES
Moderator: Vicky Messer, SCF Board representative and VP Product Development, RAN Semi

Localized 5G Small Cell Open RAN and beyond Development
Dr. Tareq Abdulrahman, King Saud University
Dr Yaser Seddiq, Associate Research Professor, King Abdulaziz City for Science and Technology
Moderator: Dr Khalid Al Mashouq, Group CTO & Vice-Chairman, ACES

Enhancing DAS in-building wireless to enable private networks
Mats Villander, Executive Vice President , EdgeNectar Inc

WEDNESDAY 20 NOVEMBER - AFTERNOON

Session: Stadium Connectivity

Delivering wireless connectivity experiences in stadiums
Fredrik Tägt, Strategic Product Manager, Indoor Radio, Ericsson

Panel: Small cells in sports sector and stadiums
Fredrik Tägt, Strategic Product Manager, Indoor Radio, Ericsson
Simon Fletcher, CEO, Real Wireless
Rayan Hamze, Director of Sales, MEA, DAS and Small Cell Solutions, CommScope
Ahmad Azhar, IBS Design Engineer, ACES

Approaches to deploying Open RAN in indoor environments
Muhammed Zaryab Nisar, Expert Commercial Planning , TAWAL

Panel: Private Networks
Ali Alshehri, CTO, Aramco Digital
Abdulrahman Al-Moaiqel, CCO, TAWAL
Analysis Mason (TBC)

Active RAN Sharing Showcase
Ayman Al-Harbi, Executive Director Infrastructures & Connectivity, Red Sea Global

Energy saving deployments of small cell
Mike Rosenberg, CEO and Founder, Circadian

AI-Powered Small Cells: Enhancing Network Intelligence and Automation
Dr. Doudou Samb, Technical Director/ RF Technical Expert, Prose Technologies.

Correct as of 13 November 2024.

Check the online agenda by scanning the QR code or visiting the link below:
https://smallcells.world/saudi/agenda/

FLOOR PLAN

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WELCOME TO SMALL CELLS WORLD SUMMIT: SAUDI ARABIA

It is with great pleasure that I welcome you to our first SCWS in the Middle East

Over the years, SCWS has established itself as an essential event in the telecoms sector's calendar: two days where we bring together policymakers, mobile network operators, equipment vendors, neutral hosts and the many other players in our industry, for discussions and positive collaboration. SCWS London 2024 was no exception, as we explored the ever-increasing demands for ubiquity of coverage, and delved into the fundamental changes shaping the future of connectivity.

One thing however did come through far more loudly than in previous years: the true driving force that the Middle East has become in our sector. While other regions and markets are focused on brown-field opportunities, the Middle East is a region still experiencing significant growth with newly-built metropolises that require connectivity.

SCF's core strength has always lied in its truly global membership, many of whom are based in this region. With organisations from around the world, we're able to identify commonalities, determine best practices and understand cross-region opportunities for knowledge transfer. Our new global approach to SCWS reflects that and enables us to deep dive into a particular region – with its own set of challenges and opportunities - while bringing in fresh thinking and actionable insights from further afield.

As our plans to take SCWS truly global started to firm up, I am pleased our first event of the 2024/25 event season should be in the Middle East and I am delighted to be bringing SCWS to Saudi Arabia. We are grateful to our members in the region and Terrapinn, the organisers of Connected World KSA for their support. We hope to make this a regular stop on the SCWS circuit.

Sue Monahan CEO,
Small Cell Forum

INTRODUCTION TO SCWS SAUDI ARABIA

A conference of opportunities and challenges for our industry

As Chief Strategy Officer of SCF, this is an exciting time to be launching a wireless connectivity conference in Saudi Arabia, with the government's Vision 2030 taking shape and putting sectors like telecoms at the center of its mission to ensure the digital transformation of its industries and communities.

In SCF over the last few years we have enjoyed good representation from members in the MENA region, providing us with a detailed view and understanding of both the opportunities and challenges in Saudi Arabia and the wider Middle East and North Africa area.

As a trade association SCF takes a view across trade flows in components, products, networks and systems that supply the small cell networks ecosystem. We see through our global membership where trends are developing. The small cell and 'neutral host' markets in the region are somewhat nascent when compared to other markets. However, innovators are already apparent, with the building of cities and venues creating a useful backdrop for both in-building and densified outdoor network deployments.

Proof of concept initiatives from our members in the region around 'MOCN' shared band and outdoor small cell deployment financial efficiency are proof that innovation is happening. 'Neutral host' interest in using spectrum in the 4GHz, 3.5 – 3.8 GHz bands is present, these bands are used in other markets, there will surely be opportunity for global market vendors to leverage volume across common product lines that address MENA and other markets.

'Open RAN' as a concept is understood in the region, but the interoperability of the components is not delivering yet on plug-and-play. The view from the buyers in the region is that this situation needs to be improved to improve the outlook for small cell using 'Open RAN'. Future proofing of architectures is most certainly work in progress and other markets may learn from MENA.

With in market R&D (Research and Development) capable players developing propositions in private networks, stadiums, using localized edge and data center architectures alongside the latest in small cell – SCWS Saudi Arabia will surely bring valuable insights to attendees.

So I am looking forward to varied presentations and interesting debate at the conference. Bringing the SCWS format to Saudi is a proud moment for the Forum and part of our vision to expand our conference series across the globe to core market areas. I'd like to thank our regional service provider partners Tawal and ACEs, who have helped shape and develop the SCWS agenda in partnership with the SCF team offering valuable local knowledge and inputs. I look forward to a lively and insightful two-day event.

Simon Fletcher,
Chief Strategy Officer,
Small Cell Forum (SCF)

DRIVING DIGITAL TRANSFORMATION GLOBALLY

SPEAK TO US AT THE SCF STAND

SAUDI ARABIA SMALLCELLS WORLD SUMMIT 2024

SCF is a global membership organization representing the interests of a broad and evolving ecosystem. Capturing requirements from MNOs, neutral hosts, private network operators, OEMs and enterprises, we work to accelerate the sustainable digital transformation of industry, enterprise and communities.

We bring regulation and technology together, supporting progressive regulation and agile, cost-effective and scalable technologies for an evolving service provider ecosystem.

Policy and regulation lobbying

SCF is helping policymakers achieve their digital ambitions and ensure positive conditions for infrastructure investment. SCF membership grants organizations a critical mass to more effectively engage and impact standards and regulation development.

OUR WORK

- Developing baseline regulatory frameworks based on global best practices
- Clarifying the value and role of neutral host providers
- Supporting municipalities to realise the value of connected communities
- Promoting a holistic approach to sustainable mobile infrastructure that considers energy consumption from edge to core and encourages policymakers to recognize the interplay between economic, societal, and environmental sustainability

Driving meaningful technology development

For nearly 20 years, SCF's technical work has focused on enabling open, multivendor technology, and lowering barriers to densification and the implementation of shared infrastructure. SCF membership helps organizations support the drive to avoid fragmentation and enable interoperability.

OUR WORK

- Driving standardization of key elements of cellular network technology
- Exploring the potential for a baseline blueprint for sharing architectures
- Continuing to update FAPI, a common standard agreed between chipset and component suppliers and mobile base station integrators
- Developing management solutions for Split-6
- Assessing how specific split architectures align with real-world deployment scenarios: providing a quantitative assessment for the business case development of Open RAN options

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SCF

SMALL CELLS IN MENA: SCF ANALYSIS

In the Middle East and North Africa (MENA), small cell networks are set to play a pivotal role in the region's digital transformation. As the MENA ecosystem pursues ambitious smart city, industrial, and connectivity projects, the demand for scalable, robust small cell infrastructure has never been greater

The Middle East and North Africa (MENA) region is an extremely interesting one for the small cell industry. The region's operators and industrial ecosystem have been strong drivers of small cell innovation and roll-out for many years and developments in smart cities, neutral host infrastructure and stadium networks, among other areas, have often seen leadership activity in areas such as the Gulf Cooperation Council (GCC).

Saudi Arabia therefore provides a very apt setting for the first Small Cells World Summit (SCWS) event in this region, and the conference agenda reflects the key opportunities and concerns for the MENA ecosystem. As in all significant infrastructure initiatives, there are challenges to address before small cells will be deployed at the scale to meet all the objectives set by enterprises, governments and service providers. Some of these challenges are global, while others are specific to the region.

In both cases, the issues facing the industry in MENA are important in informing Small Cell Forum's (SCF) work agenda for 2025. At SCWS, SCF will set out its work program and ensure that it addresses the priorities of the whole value chain in the region. This document provides an overview of the main challenges and opportunities in MENA, as revealed through SCF interactions and surveys, and through the conference agenda; and maps those issues to the main items of the SCF work plan for the year ahead.

A key goal for SCF is to channel the huge amount of diversity and innovation that emanates from its members, and provide frameworks and industry relationships that will transform that innovation into scalable platforms, monetizable use cases and trade flows. MENA is a particularly vibrant and motivated community in which to further this goal and drive industry growth in 2025 and beyond.

MENA WILL SEE STRONG SMALL CELL GROWTH BUT CHALLENGES MUST BE ADDRESSED

The MENA region has often been a hub of small cell innovation and activity, and that remains true today. Interest in small cell networks has been driven by many factors, including large smart city projects, especially in the GCC states; enterprise connectivity projects in key sectors such as oil and gas, construction or sports venues; and by the mobile operators' need to address the rising levels of data usage in a regional population that is youthful and tech-savvy.

Small cells will grow to support digital infrastructure expansion

The result has been steady growth in deployment of small cells in many environments, from pole-mounted city cells to in-building systems for large venues to enterprise networks. This growth is summarized in Figure 1-1, which is a regional extract from SCF's latest market forecast, published in July 2024. The graph shows steady increase in roll-out to the end of 2026, at which point we forecast the annual deployments will stabilize around 400,000 radio units (all-in-one cells; RUs attached to a disaggregated RAN; end points in a distributed antenna system). Then there will be another uptick around the end of the decade, when we believe new advances in form factors and automation will enable increased scale, and when deployers start to upgrade to next-generation architectures.

Barriers to full-scale roll-out remain

However, this forecast will only be achieved if various barriers are removed. As in any region, mass build-out of infrastructure entails risks and challenges, and some of these are constraining small cell build-out. Addressing these challenges will be a key focus of discussion and debate at SCWS Saudi Arabia, and the goal of SCF's work agenda for the coming year is to lower barriers to deployment at scale, whether these are global or locally specific.

Figure 1-2 summarizes the main challenges perceived by three types of deployer in the MENA region – MNOs, neutral hosts, and private network operators or enterprises.

There are different priorities among the three groups, in MENA as elsewhere, but the over-arching concerns are clear. Many relate to complexity. Small cell networks, by their nature, have large numbers of active components and sites, which can create cost, site logistics and operational challenges. And they are charged with addressing a very wide variety of use cases, industries and operational environments, particularly in the enterprise and city markets. This leads to concerns about fragmentation and lack of scale, as well as the large number of stakeholders that may be involved in a deployment in, say, a large city. All this creates uncertainty about return on investment and monetization models, as well as which technology and spectrum choices will be best placed to optimize the business case.

These challenges are not unique to MENA of course, but the region's deployers are higher than the global average, according to the SCF survey, in terms of their focus on scalability across diverse use cases and environments. As major projects in urban construction, energy infrastructure, manufacturing and other sectors start to mature, it is urgent that barriers are removed, building confidence and enabling small cells to play their full part in delivering the huge expansion of digital infrastructure and connectivity that is predicted for the MENA region. Huge projects with technology at their heart, such as the creation of Aramco Digital or the Neom megacity, both in Saudi Arabia, are creating the climate for small cells to thrive, if the conditions are right.

Fig 1-1. Forecast deployments of small cells (all environments) in MENA 2022-2030

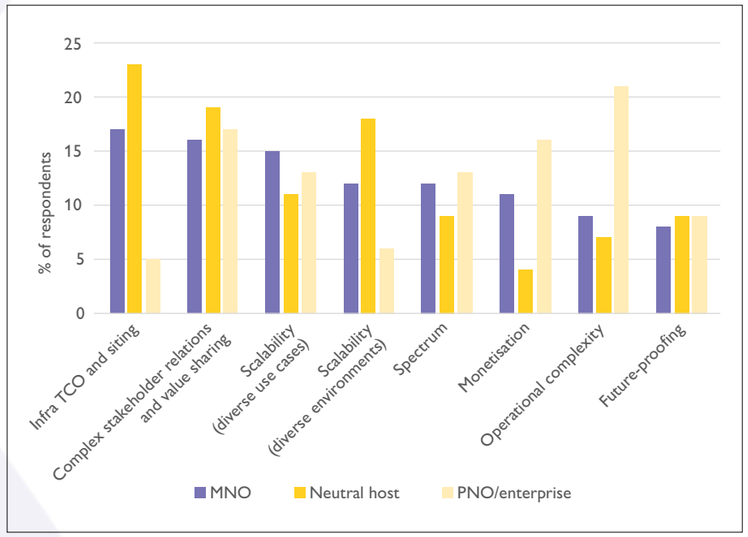


Fig 1-2. Key challenges in deploying small cell networks at scale in MENA, by main deployer type[1]

1 This data is taken from SCF's annual global survey of small cell deployers, operators and infrastructure providers. Respondents were first asked to list all their significant challenges and the eight most-cited challenges were recorded. Respondents were then asked to rate the significance of these top 8 to their business case.

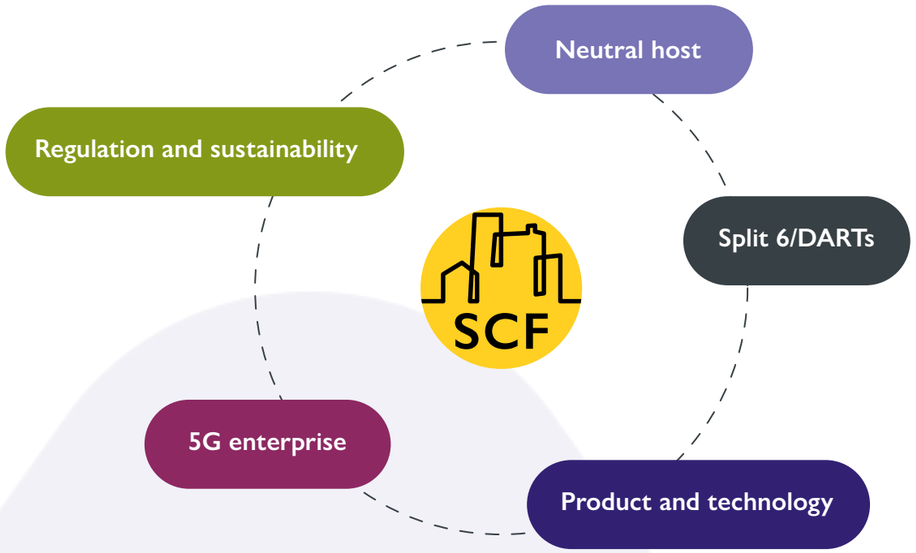


Fig 2-1. Key elements of SCF work plan for 2024-2025

SCF'S 2025 WORK PLAN

SCF's 2025 manifesto and work agenda is laser-focused on the challenges that MENA stakeholders face

It is the mission of SCF to help address challenges to at-scale deployment in every region. Through inputs from its members and its partners, it distils the requirements and concerns of stakeholders, feeds them back to the wider industry, and creates a work plan that focuses on these needs. In this way it channels the diversity and innovation within the sector, and provide frameworks and industry relationships that will transform that innovation into scalable platforms, monetizable use cases and trade flows.

SCF's work plan for 2025 demonstrates the way forward to ensure that MENA, like other regions, rapidly develops the right environment – technical, commercial and regulatory – for small cells to reach their full potential.

SCF'S WORK AGENDA MAPS WELL TO MENA'S SMALL CELL CONCERNS

Figure 2-1 summarises the critical areas of SCF work activity in 2024-2025, which are addressed by specific working groups but also interrelate in order to address the full richness and variety of deployer requirements.

Each of these five areas contains multiple projects that will lead to tangible and usable ouputs including technical specifications, guidance or best practice documents, blueprints and market overviews. These will be of direct value to vendors, operators, regulators, infrastructure investors and other players in the value chain; they will also be important in SCF's partnerships with other organizations, which greatly amplify the impact of its work. For instance, it is a 3GPP Market Representation Partner, which enables it to offer market advice to guide standards work and ensure it addresses real industry needs.

HIGHLIGHTS OF THE WORK PLAN

Within the broad work areas outlined above there are many activities involving large numbers of members. Some examples illustrate the wide scope of the program and the many ways in which the work items will help MENA deployers and service providers to achieve their own commercial goals as well as contribute to social and economic transformation in the region.

NEUTRAL HOST

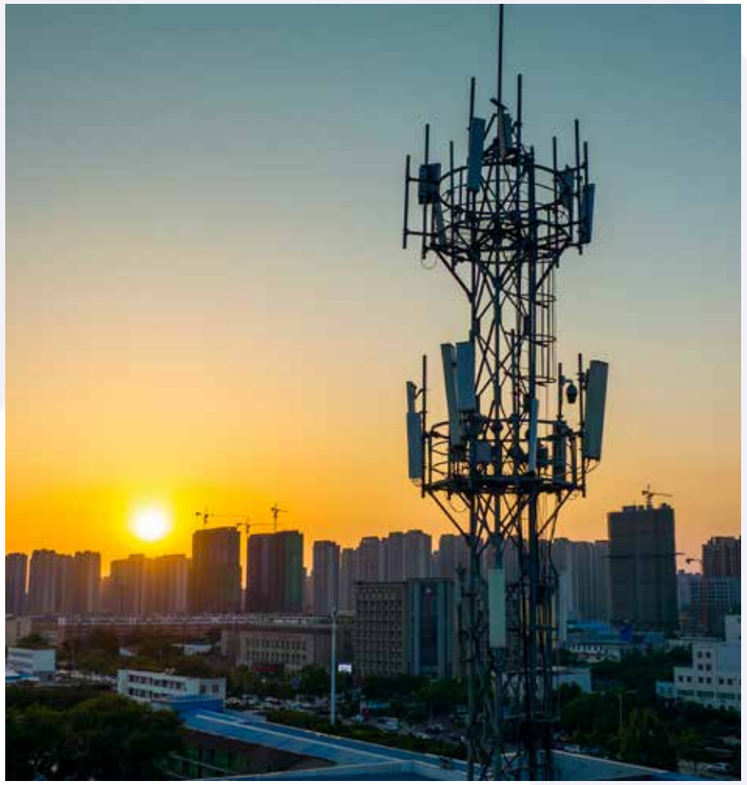
One of SCF's key missions is to promote and facilitate multiple business models for small cell networks, in order to address different economics and use cases in different operating environments. SCF has become the pre-eminent supporter of neutral host models that enable economies of scale through infrastructure sharing and stakeholder coordination, improving the business case for MNOs, enterprises and service providers.

Practical blueprints for cooperation in a neutral host setting have been important deliverables, easing the complexities of establishing multi-tenant platforms and relationships, and SCF's work with the JOTS Neutral Host In-Building effort has resulted in a framework that has already made a visible impact on success in the UK and now provides valuable guidance for other markets. SCF has also amassed a body of over 50 detailed case studies of successful neutral host-enabled deployments and will continue to add to this asset, providing members with valuable data on different value propositions and collaboration models.

In the coming year, important neutral host work items will also include a focus on spectrum sharing between neutral hosts and MNOs in the millimetre wave bands, as interest in using these high-frequency bands for ultra-dense deployments grows.

ARCHITECTURES AND INTEROPERABILITY

SCF has always been at the forefront of specifying and promoting interfaces and platforms that enable the key operator goal of multivendor interoperability between different network elements, which in turn fosters a broad ecosystem and innovation base, delivering value to all. The FAPI family of interfaces is at the heart of this effort, and underpins interoperability from semiconductor to network levels. SCF supports and develops the functional split 6 in a disaggregated RAN architecture, and in



2025, important activities include ongoing collaborations with the O-RAN Alliance and Open Air Interface group, among others.

SCF's DARTs tool provides important capabilities for deployers to assess the best functional split for their purposes and to calculate the ROI of a network. DARTs continues to be enhanced, and some members are also starting to think about the roadmap for a next-generation, '6G' platform. As this year's SCF deployer survey showed, a flexible, reconfigurable set of interfaces between radio units and basebands are likely to be a goal for 6G, and a topic where SCF's working group, led by BT, would contribute significant expertise.

PRODUCT AND TECHNOLOGY INNOVATION

The technology of small cells constantly evolves to optimize support for the various iterations of 5G (including 5G Standalone and 5G-Advanced) and to enable the ever-widening range of use cases. Important development areas for the year ahead, many within the FAPI scope, include support for RedCap (5G Reduced Capability), which could improve the economics of small cell networks focused on IoT, in which the MENA region shows particularly strong interest. Expanded support for millimeter wave spectrum, drones and airborne cells, and for the emerging integration of 5G with non-terrestrial networking (NTN), are also areas of focus in this region, and in the technology visions of governments and regulators such as KSA's CST (see below).

There are many other ideas for technology enhancements to be considered for the work program, all of them unified by common goals – to optimize a common small cell platform that can address the most challenging environments, including ultra-dense venues such as stadiums, mixed indoor/outdoor locations such as campuses, giga projects such as major multi-application smart city networks, and outdoor networks that are capable of supporting V2X. All these challenging deployment scenarios were highlighted as very strong areas of growth potential in the 2024 deployer survey, and all are in particularly sharp focus in MENA, as reflected in the SCWS conference agenda.

ENTERPRISE SMALL CELL NETWORKS

Enterprise environments have driven the most significant growth for small cells in MENA as elsewhere, but also present significant challenges because of the diversity of requirements and use cases. In MENA, certain industries are particularly forward-thinking in deploying advanced connectivity to support transformation, including manufacturing and energy.

In a broad enterprise work program for 2024-2025, particular highlights include work on innovative architectures that will support fully private or on-premise networks, including local breakout to keep data secure; and new designs for enterprise small cell gateways. Of course, many of the technology-driven work items, such as use cases for mmWave spectrum, will also strongly influence the enterprise agenda and deliverables.

SPECTRUM AND REGULATORY ADVANCES

Emerging spectrum bands are not the only focus of regulatory activity in SCF in the coming year. An important role of the Forum has always been to liaise with, and influence, regulators and policy makers round the world to make the case for the benefits of small cells in pursuing socio-economic goals. This has led to significant improvements in regulatory issues such as site permitting and spectrum conditions in some markets, and these in turn lower the barriers to deployment. However, there is still considerable work to be done in many regions, as well as efforts to tailor policies that SCF promotes at a global level, for individual regions. This year, MENA and India are in particular focus. In Europe and the US, where the biggest progress has been made on site regulation, the next area of activity will be in regulations for spectrum sharing, which SCF hopes will be extended in a way that will facilitate its neutral host business models

SCWS SAUDI ARABIA'S AGENDA REFLECTS THE WIDER GLOBAL AND REGIONAL CONTEXT

There are specific practical solutions that will emerge from the SCF work program and its partnerships, but these are also contribute to broader industry goals such as sustainability, technology self-sufficiency and a roadmap towards 6G, which are key concerns for the telecoms industry in MENA as in other parts of the world.

These goals are reflected in this year's SCWS MENA conference agenda and in the vision set out by Saudi Arabian regulator CST. CST is conducting a public consultation process focused on innovative spectrum usage in 2024-2027, with a view to ensuring that current and future spectrum rules and allocations support the applications and business models that will drive social and economic progress. Prominent examples include enhanced use cases for drones and UAVs, and the introduction of non-terrestrial network integration (including 5G direct-to-device support for LEO satellite), as well as advanced air mobility (AAM).

The Gulf region has been a pioneer in all these technologies and so the KSA consultation's results will be closely watched around the world. These applications, as well as other areas of interest to CST, such as next-generation IoT, are all heavily reliant on small cells for density and ubiquitous coverage. So, making those small cell networks deployable, and ensuring that they generate healthy revenue flows to operators and vendors, will be front of mind for KSA and the wider region as the consultation reaches its conclusions.

THREE OTHER BROAD REGIONAL AND GLOBAL ISSUES ARE LIKELY TO BE TOPICS OF HOT DEBATE IN KSA THIS MONTH:

1. How AI/ML, including generative AI – probably the most discussed topic in telecoms this year – can be applied specifically to small cell networks for a range of purposes, from improved automation to intelligent slicing to dynamic spectrum management.

2. How telecoms networks can be more sustainable, and how the small cell community can contribute to that goal. Renewable energy, new power-efficient radios, improved traffic and capacity management, and a focus on recyclable materials are all in scope.

3. Like many economic and technology hubs, KSA and its neighbours are considering how far they can build on the innovations of Open RAN and small cells to encourage a local ecosystem and platform, that could bring increased technological self-sufficiency and control, as well as new revenues and opportunities for local players. Some operators in other regions are working on their own platforms, including in India, Japan and Vietnam, and there may be an opportunity for the Saudi technology industry, backed by powerhouses like Aramco Digital, to follow suit and create small cells and supporting platforms that are optimally suited for local needs.

CONCLUSION

The SCF work agenda maps clearly to the key challenges for MENA

The big issues outlined above will be addressed mainly through the accumulation of many relatively specialized, high-value innovations and ideas. The SCF work agenda, therefore, has the dual role of addressing immediate member issues in a timely fashion, while also contributing to a bigger vision and roadmap.

In summary, the work program for 2024-2025 maps very clearly to the challenges that small cell supporters in MENA have highlighted. SCF's role will be helping to shape the global agenda for next-generation connectivity, and the benefits it can bring to the small cell value chain and to wider society and economy.

MENA KEY CHALLENGE	SCF WORKING GROUPS	IMPACT ON ADDRESSING CHALLENGE
Infrastructure TCO and siting issues	Neutral host	Enable delivery models with high levels of infra and site sharing
Complex value chain relationships and operations	Neutral host Enterprise	Enable models in which NH manages all relationships Blueprints for enterprise value chain relationships in different industries
Scalability – diverse use cases	Enterprise	Platforms and technology specs such as gateways that support multiple sectors and use cases on common foundations
Scalability – diverse environments	Split 6 and FAPI	Common architecture foundations on which technologies can be layered to support different requirements e.g. outdoor V2X, indoor hyperdensity
Spectrum and regulation	Regulatory	Work with regulators to influence spectrum conditions, city permits, sustainability rules etc.
Monetization	Product and technology	Drive development of technologies that enable differentiated use cases that can be monetized e.g. RedCap, NTN, 6G use case testbeds
Future-proofing	Product and technology Split 6	Develop clear roadmap of features to take deployers from 5G to 6G Enable flexible choice of functional splits

Fig 2-2. Mapping of SCF work agenda for 2024-2025 to MENA key challenges

PIONEERING THE FUTURE OF CONNECTIVITY:

ACES launches Saudi Arabia's first neutral indoor Open RAN 5G innovation with localized 5G small cells

ACES, a local Saudi company, has established a Research & Development department aimed at fostering the local advancement of emerging technologies, including 5G, the Open RAN ecosystem, and shareable neutral-host compliant small cells. Supported by the Ministry of Communications and Information Technology (MCIT) through its National Technology Development Program (NTDP) funding, ACES has successfully developed and tested prototypes of shareable 5G small cells. The department's research accomplishments include nine publications in prestigious IEEE conferences, local ecosystem development for O-RAN in their lab, patent registrations, contributions to global forums such as the Small Cell Forum (SCF), IEEE RRSA, and the local development of small cell subsystems.

POC Details

The Open RAN Proof of Concept (PoC) represents the industry's inaugural indoor deployment of O-RAN technology, benchmarking its Key Performance Indicators (KPIs) against traditional RAN solutions. Supported by telecom Operators STC and Mobily, with ACES as the neutral host and Mavenir providing software integration for the Central Unit (O-CU) and Distributed Unit (O-DU), the PoC takes place at the King Abdullah Financial District. Utilizing 4G LTE on 1800/2100 MHz and 5G C-Band at C-Band with 2x2 and 4x4 MIMO respectively, this initiative aims to rigorously assess ORAN's potential to enhance indoor network performance, interoperability, and operational efficiency.

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