1 INTRODUCTION 1.1 Background The Jazan City for Primary and Downstream Industries (JCPDI) is being planned as a SMART City.Figure 1: JCPDI Location JCPDI 1.3 Industrial City Master Plan 1.3.1 JCPDI Smart City Vision The 2040 Industrial City Master Plan quotes the Vision for JCPDI as being: "A City of Connection, City of Awareness and City of Wisdom – three stages to build a better connected Smart City, effectively enhance the residents' satisfaction, and further attract foreign investment to contribute to the Vision 2030". In supporting the above vision statement, JCPDI has been planned as a smart city that balances improvements to quality of life, economic growth and environmental sustainability. Smart cities follow a hierarchical process: People: Place: Technology. People People come first and without smart people there is no smart city, education is paramount for educating people about consuming less energy and their impacts on the global situation, to fostering research into sustainable design, sustainable agriculture, sustainable water usage, sustainable transport, advances in biology, chemistry and technology. Research and vocational training is a key component of addressing social problems in the region. Place The second component is place, it is about building on the identity of the existing surrounding urban areas and landscape of the Jazan to create a unique destination. In the context of the evolving master plan for JCPDI many of the components of a smart city have been addressed in the environmental planning approach and the sustainability strategy. Technology The third component is the technology, information and communications technology that is the enabler for the Smart City to operate. It starts with sustainable planning around the appropriate infrastructure, public transport, freight transportation, industries, logistics, power, water, and the handling of waste products. 1.3.2 JCPDI Smart Components The JCPDI 2040 Industrial City Master Plan comprises of three new main components/zones and one existing component, shown in Figure 2: Industrial activity will be the main driver of economic growth in JCPDI. It will generate a diversified range of downstream activities building on existing investment commitments, existing infrastructure, the potential of the Saudi/Chinese Joint Venture, and the economic and locational opportunity for JCPDI to become a regionally and internationally recognized manufacturing and assembly location. JCPDI will be an exemplar sustainable urban community offering a high quality of life, complemented by industry–specific training infrastructure needed to attract and retain investors and skilled workers. The Jazan Special Economic Zone (SEZ) (straddling a portion of the general industry zone and northern part of the heavy industry zone) is one of the first special economic zones in Saudi Arabia to enjoy special legislative systems and regulations for economic activities that will make it one of the most competitive in the world. 2 3 Figure 2: JCPDI Components Over and above the Community Zone the JCPDI Industrial Zone will focus on the following industries. The Heavy Industry Zone will focus on: ? Heavy Industrial Manufacturing ? Oil and Petrochemical ? Metals and Minerals Processing The General Industry Zone will focus on: ? General Industrial Activities ? Food Industries ? Equipment and Electronics ? Other industries 1.3.3 JCPDI Themes and Principles The Concept Master Plan for JCPDI is based on four themes: 1. Diversify the economy of JCPDI and reinforce its position as a major trading centre in the Middle East Region. 2. Facilitate the efficient movement of goods through an effective and connected transportation network and seamless business functions. 3. Establish an efficient and effective development framework that delivers a quality built environment and supports the unique functional requirements of an economic

zone. 4. Enhance the built environment by celebrating the site's natural assets and promoting sustainable and responsible building and operational practices. Industrial activity will be the main driver of economic growth in JCPDI. It will generate a diversified range of downstream activities building on existing investment commitments, existing infrastructure, the potential of the Saudi/Chinese Joint Venture, and the economic and locational opportunity for JCPDI to become a regionally and internationally recognized manufacturing and assembly location. JCPDI will be an exemplar sustainable urban community offering a high quality of life, complemented by industry-specific training infrastructure needed to attract and retain investors and skilled workers. The masterplan is developed following a number of guiding principles as follows: 1. Support the health and well-being of residents. 2. Adopt design strategies that will respond to climate challenges and promote long-term sustainability. 3. Promote a unique identity and character. 4. Enhance safety and security. 5. Foster a sense of community. 6. Maximise land efficiency. 7. Adopt holistic approach to reducing water usage. 8. Provide integrated urban fabric. 9. Promote healthy, energetic and inclusive lifestyle. 10. Integrate traditional design principles with modern technologies. 11. Integrated public open space. 12. Maximise visual amenity. 1.3.4 JCPDI Sustainability Strategy The passive design guidelines in the 2040 Industrial City Master Plan states that the following measures should be considered, to set Key Performance Indicators (KPIs) for the Sustainability Strategy, and monitored through the Smart City application. ? Efficient household appliances and lighting. ? Optimizing the whole concept and saving. 4 ? Energy Reduction in buildings. ? Water Usage in buildings. In addition, the Green Building Concept should be considered to set KPIs for the Sustainability Strategy and how these KPIs could be monitored through Smart City applications. Interface with all aspects of the overall and specific JCPDI Sustainability goals at a general and strategic level must be incorporated into the SCMP, and strategy agreed early in the development of the SMART CITY Master Planning process. This way the development can be aligned with JCPDI core sustainability targets and long term planning will be more efficient. 1.4 United Nations Sustainable Development Goals Successful implementation of the Sustainable Development Goals (SDGs) are the pathway to achieving the three pillars of sustainability: social, economic and environmental. An overview of the relevant SDG and it application within this master plan is provided below. 1.4.1 Strategic Development Goal 9: Industry, Innovation and Infrastructure Technological progress is the foundation of efforts to achieve environmental objectives, such as increased resource and energy-efficiency. Without technology and innovation, industrialization will not happen, and without industrialization, development will not happen. As such, the JCPDI incorporates the smart city framework for monitoring and sustainable strategies for infrastructure, heat island effect, material, shading, lighting, water, energy and waste. SDG 9 will be achieved by implementing the JCPDI Sustainability Strategy which will result in achieving other strategic goals such as: ? Good Health and Well being ? Clean Water Sanitation ? Affordable and Clean Energy ? Sustainable cities and communities ? Responsible consumption and reduction ? Climate action ? Life on Land 1.5 Saudi Green Initiatives SGI is steering the implementation of a sustainable long-term climate action plan. Three overarching targets guide SGI's work – emissions reduction, afforestation and land regeneration, and sea protection. 1.5.1 Emission Reduction Saudi Arabia is taking a multidimensional approach to emissions reduction. The Kingdom has committed to

have 50% of its power generated from renewable sources by 2030. Beyond a domestic energy mix transformation, SGI is steering a range of ambitious initiatives that will reduce emissions. These include investing in new energy sources, improving energy efficiency, and developing a carbon capture and storage program. 5 SGI Target: Reduce carbon emissions by 278 million tons annually by 2030. This target is paving the way to net zero emissions by 2060. 1.6 KSA National Spatial Strategy 2030 The National Spatial Strategy (NSS) 2030 considers the development of the smart city concept and new emerging technologies that will impact logistics re-commerce effects, citizen behaviour (reduction of mobility), and that will also improve the efficiency of public services, utility management, traffic management, transportation management. Due to the very fast technological advances, a specific observatory of urban innovation will be implemented to analyse the ongoing changes, support innovative solutions and find new ways to implement projects for a better management of cities and regions. KSA Vision 2030 Smart City Objectives: Enhance traffic safety Develop the digital economy Enhance ease of doing business Improve living conditions for expats Attract Foreign direct investment Create special zones and rehabilitate SEZ Improve working conditions for expats Improve quality of services provided to citizens 1.7 JCPDI Smart City Core Components Although JCPDI has its own context and, therefore, it implementation of SMART City will be unique, it will adopt the general principles common to all SMART Cities as per the Master Plan, shown in Figure 3. Figure 3: JCPDI Smart City Core Components 6 1.8 Smart City Framework The JCPDI Smart City Framework v2.0 is attached to this document. 1.9 Information and Communication Technologies Strategy The role played by Information and Communication Technologies (ICT) in smart cities is important because it acts as a digital platform from which information and knowledge networks can be created. ICT is a key enabler of for a sustainable approach to designing, building, and operating smart districts, cities, and communities. JCPDI developed an ICT strategy and the Smart City Master Plan should be guided by the strategy. Based on the JCPDI Master Plan two data centres (DCs) are planned and included in the Smart City Master Plan Framework & ICT strategy. 1.10 Economic Cities and Special Zones in KSA The Economic Cities and Special Zones Authority (ECZA) developed a Smart City Development Guideline as part of their Special Economic Zone Development Manual Part 1: Zone Planning Volume 4. One of the key objectives of this document is to provide high-level and strategic guidelines and recommendations to planners and developers engaged in the design, implementation, and operation of development projects within the Zonal Regulator's regulatory oversight. 1.10.1 Special Economic Zone Smart City Vision As the regulator of SEZs, ECZA aims to facilitate the development of communities attractive to investors and ensure the wellbeing of its residents, workers, and investors. Smart Cities are a key enabler of delivering this vision. ECZA aims to promote the consistent use of digital technologies, data, and Smart Services to enable Special Economic Zones to become: ? Smart – An effective user experience ? Sustainable – Effective use of natural resources (e.g. water, energy) ? Integrated – The integration of its city's infrastructure (mobility, buildings, water, energy, etc.), connected and 'glued" by digital technologies to enable data driven operations and maintenance and appropriate coordination between cities with the Kingdom's authorities.All deliverables by the Consultant will be in English, and any other language as identified or required for deliverable sufficiency.Currently, this comprises the physical area defined by the 2040

Industrial City Master Plan, however the Consultant should note that: The SEZ proposed for the Industrial City was formally announced by HH Crown Prince Mohammed bin Salman on 13 April 2023 and it will be necessary to ensure that any SMART City components proposed by the SEZ Master Developer are aligned, compatible and communicate with the JCPDI SMART City operations center, now termed the SMART Hub.No addition, subtraction or substitution of the stated resources shall be made during the Task without the prior agreement of the PM. No claim for additional fees shall be entertained unless the Scope has been increased by way of a variation notice issued by the PM. In the case that circumstances arise where the Scope is reduced, this also will be confirmed by the issuance of a variation notice and an appropriate reduction in fee will be agreed by negotiation.9 10 Figure 4: JCPDI Expansion Areas Artificial Island 11 Figure 5: JCPDI Special Economic Zone Boundary 2.2 Scope of Work Based on his reading of the provided document and his knowledge of JCPDI's SMART City aims and objectives, best practices elsewhere and the relevant industry standards, specifications and guidelines, the Consultant shall submit a proposal that address the following items: 1.For the SMART City to be implemented efficiently and to its fullest extent, its various components – whether these relate to physical infrastructure or software systems, commercial operations or government services – must be considered at the earliest stages of the planning and development cycle.Whilst the Expansion Area to the east and south of the present limits of JCPDI eventually will be subject to the SCMP, and a Consultant has recently been appointed to conduct a Land Use Master Plan covering this area, it is now possible to predict what additional SMART City infrastructure and/ or services will be needed to service it. The SCMP focus area should include infrastructure and/or services for the expansion areas and artificial island as all these areas will eventually be part of the Industrial City.Future Smart City Workshop: The consultant shall, through an interactive 'design lead thinking' workshop with the Client and internal stakeholders identify possible future smart city initiatives, due to current and possible technological advances, and make recommendations on supporting studies to investigate and motivate initiatives.It is expected that the various options available to address the JCPDI Smart City Core Components will be identified and weighed against each other i.t.o. priority, solution complexity, pros and cons, construction/ implementation time, Capex and Opex cost, benefit and implementation date.From the above, how understanding of the nature and volume of the data exchanges will be used to develop plans for future IT/ ITS infrastructure, networked operations, etc., including the functions and operations of the new City Operational Control Centre.12 o Final SCMP, incorporate comments from final presentation.Inception Report ?7 ???2.3.4.5.2.3.4.5.?????????????