





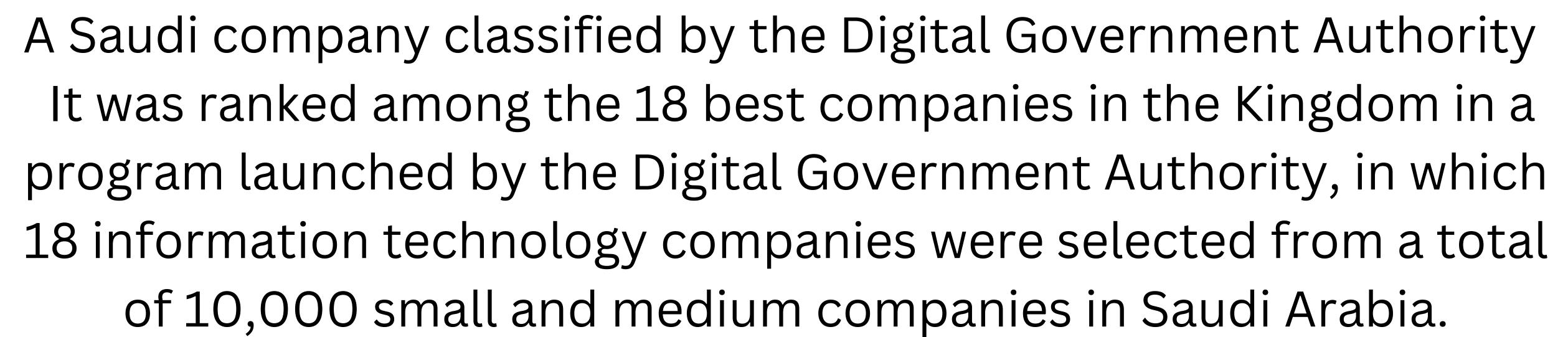
MASARTECH

Empowering with Cutting-Edge Solutions

Company Name in English : MasarTech for Information Technology

Mobile No. 00 966 504 534 753

يكرس فريقنا الوطنى جهوده لتعزيز مبادرة "مصانع المستقبل" في Our team is dedicated to advancing Saudi Arabia's 'Future المملكة العربية السعودية، مما يقود التحول إلى الصناعة 4.0. تماشيًا Factories' initiative, driving Industry 4.0 transformation. مع رؤية الدولة لعام 2030، نحن نبتكر التكنولوجيا ونقدم حلولا متطورة Aligned with the nation's 2030 vision, we innovate اللرقمنة والأتمتة والذكاء الاصطناعي والتحسين، وتمكين الصناعات من technology, offering cutting-edge solutions for digitalization, الازدهار في العصر الرقمي automation, AI, and optimization, empowering industries to thrive in the digital era.



http://



### اسم الشركة باللغة العربية ؛ مسارتك لتقنية المعلومات



www.masartech.sa

شركة سعودية مصنفة من هيئة الحكومة الرقمية صنفت من افضل شركات المملكة ال 18 في برنامج اطلقته هيئة الحكومة الرقمية و اختارت فيه 18 شركة تقنية معلومات من اجمالي 10000 شركة صغيرة و متوسطة في السعودية .





00966 504 5347 53

## TECHNOLOGY & SOLUTION

### Empowering with Cutting-Edge Solutions







MASARTECH

Empowering with Cutting-Edge Solutions

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**Our Solutions** 

- SIRI Assessment
- Transformation Plan Development
- Enterprise Resource Planning (ERP)
- Artificial Intelligence Technologies:
- Industrial Internet of Things (IIoT)
- System Integration
- Cyber Security
- Case Study 1
- Case Study 2
- Contact Us

evelopment anning (ERP)

echnologies: nings (lloT)

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منصةتك ManassaTech

**CST Certified** 



Vendor Technical Classification Certificate

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Siri Assessor Certificate





## MASAR TECH FOR INFORMATION TECHNOLOGY

Our team is dedicated to advancing Saudi Arabia's 'Future Factories' initiative, driving Industry 4.0 transformation. Aligned with the nation's 2030 vision, we innovate technology, offering cutting-edge solutions for digitalization, automation, AI, and optimization, empowering industries to thrive in the digital era.

## **OUR VISION**

prosperity.

## OUR MISSION

Our mission is to empower industries with the tools, technologies, and expertise needed to thrive in the digital age. Through innovative solutions and strategic partnerships, we enable businesses to unlock their full potential and achieve sustainable growth.

is to lead the transformation of industries into smart, innovative, and sustainable ecosystems, driving economic growth and

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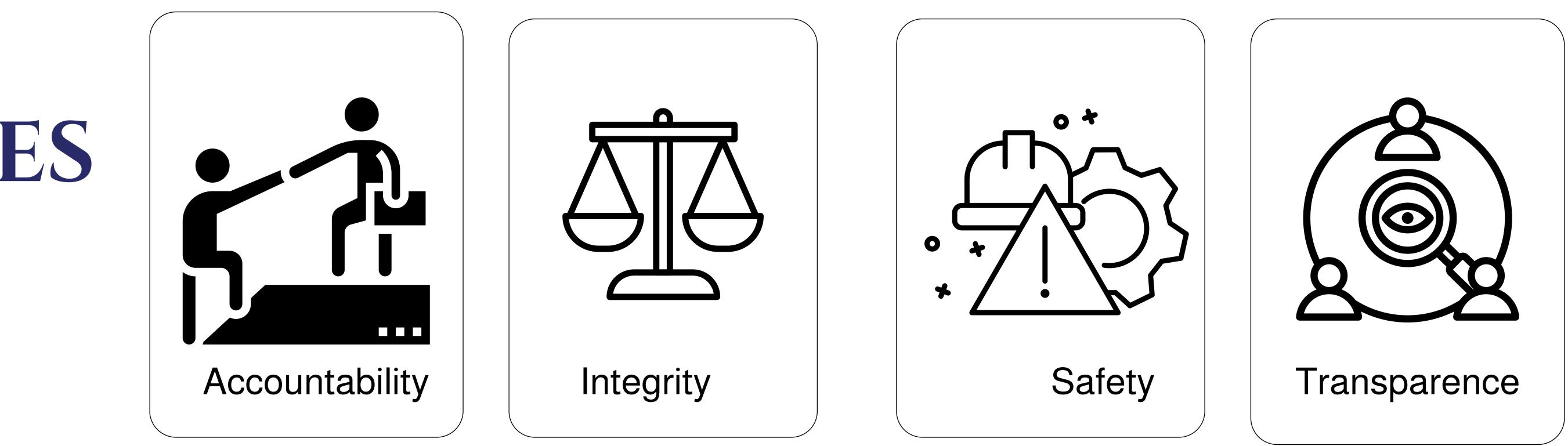
### MASARTECH Empowering with Cutting-Edge Solutions

## **OUR VALUES**

## **OUR STRATEGY**

Assessing and providing software and solutions to government and private sector to achieve Saudi Arabia 2030 vision in digital Transformation.

WHY MASAR TECH?







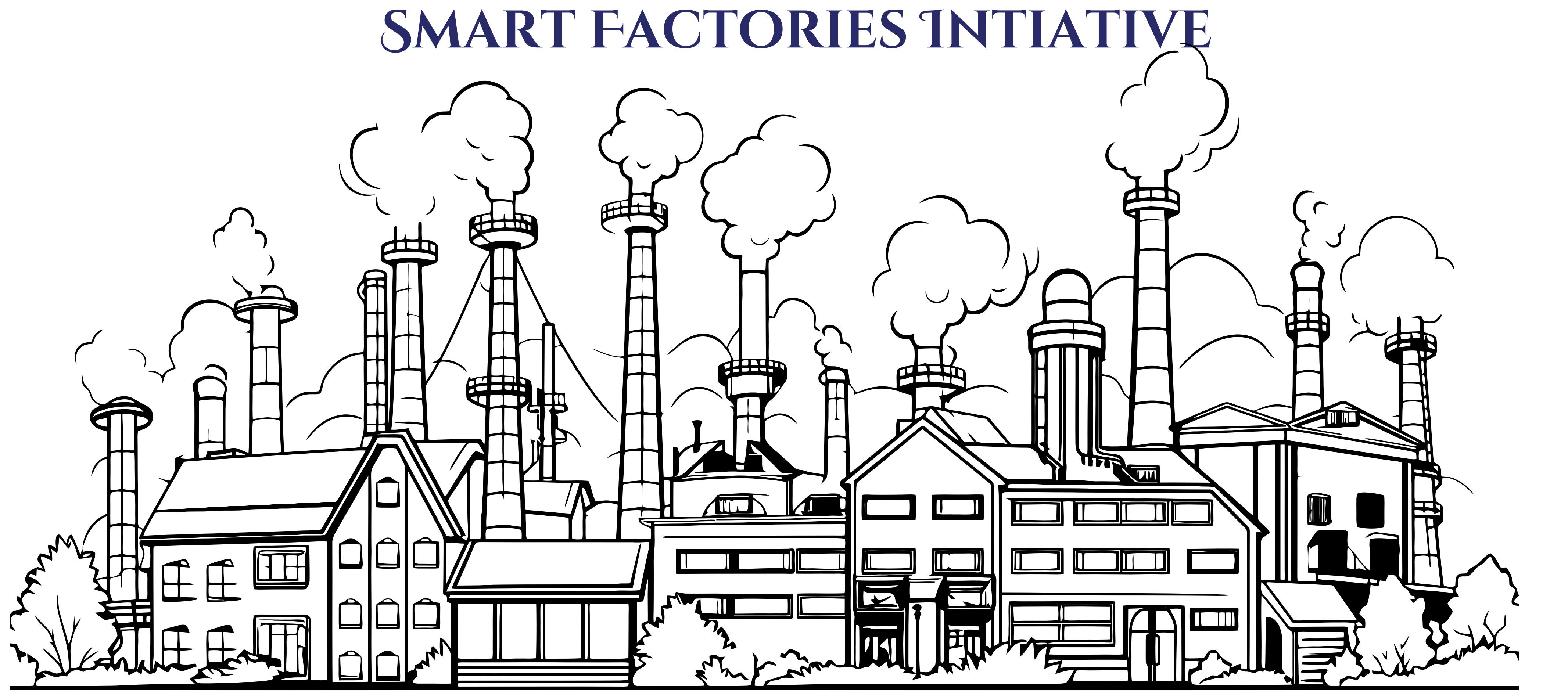




We help each other unlock our talents. We learn, play sports and celebrate success







The Ministry of Industry and Mineral Resources is working on a number of initiatives aimed at achieving the targets of Saudi Vision 2030 through improve the National Industrial and the Logistics services. One of its goals is to transform the Kingdom into a leading industrial force and a global logistics platform. The ministry's initiatives aim to achieve added value, maximize economic impact and diversify it, and create an attractive investment environment in the industrial and mining sectors, providing mature infrastructure that attracts quality investments.







### AIMS

The program aims to shift 4,000 factories from dependence on low-wage and low-skilled Laborers to operational efficiency, automation and application of advanced industrial solutions and practices. Through two main paths: The first targets new factories so that they are designed and constructed according to high standards in manufacturing and production efficiency. The second is for the existing factories so that they are converted into factories that adopt the application of standards of operational excellence and advanced technologies. In order to raise the competitiveness of the industrial sector, and to find alternative solutions to reduce the sector's dependence on unskilled labor, and to create quality jobs commensurate with the educational outputs.

# Empowering with Cutting-Edge Solutions







### GOALS

Raising the productivity and operating efficiency of the factories. Improve the profitability and economics of the factories. Enhancing the competitiveness of industrial production. Creating different job opportunities for national Employees. Raise the factories' readiness to bear the financial compensation. Reducing reliance on intensive and unskilled labor.

### FINAL OUTPUT

Transforming 4,000 factories by adopting advanced production techniques, automation and the Fourth Industrial Revolution An advanced and sustainable industrial entity International standards and technologies with a local character Jobs and skilled labour

# Empowering with Cutting-Edge Solutions







## **OUR SOLUTIONS**

We boast a skilled team of experts and collaborate with certified partners to offer factories a comprehensive suite of tailored solutions, guiding them seamlessly through their Industry 4.0 transformation journey.







### Certified SIRI Assessors

## SIRI Assessment

The Ministry of Industry and Mineral Resources has embraced "The Smart Industry Readiness Index" to gauge how digitally advanced national factories are, a globally accepted measure for assessing the adoption of the fourth industrial revolution.

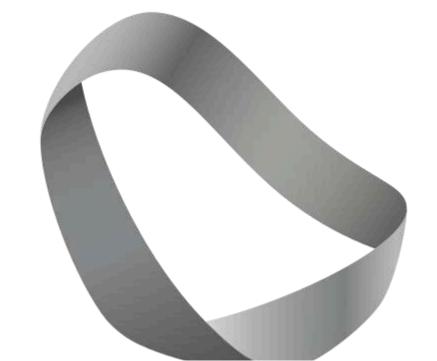
Masar Tech offers factory readiness assessment services with evaluators accredited by the International Centre for Industrial Transformation (INCIT). The assessment evaluates your factory's digital maturity and identifies key areas for improvement and optimization.

<u>www.masartech.sa</u>





Ministry of Industry and Mineral Resources







## CERTIFIED SIRI ASSESSORS

## SIRI ASSESSMENT

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## **TAILORED SOLUTIONS FOR INDUSTRY 4.0** TRANSFORMATION

Empowering factories with expert guidance and innovative solutions for digital transformation journey.

<u>www.masartech.sa</u>

## CONTACT US

## **LET'S DISCUSS** YOUR NEEDS TODAY











## SIRI ASSESSORS

### AHID NAIF ALQAUD

Mechatronics Engineering

### Enthusiastic

software developer with +4 years experience in development and deployment of web applications, Al and embedded systems projects. Worked as a counsellor for companies and individuals in building projects in my fields of expertise and worked in over 20 projects. Participated in R&D teams of 5 start-up companies and assisted to grow their businesses

Electronics Maintenance Engineer @Mazebox Escape Room Carrying out maintenance on electronic systems and equipment ensuring they work effectively besides fixing issues Curriculum Creator @ENGINIUS XXIV, IIUM, Kuala Lumpur I have solely created and designed the curriculum and main robot of the course which is regularly held in Kuala Lumpur

### H -Edge Solutions









## SIRI ASSESSORS

### MOHAMMAD ABDULLATIF BUKHARI

Senior Logistics Manager with Expertise in Procurement, Projects, and Operations

Visionary, highly accomplished and

results-driven Senior Supply Chain Professional with a proven track record of delivering operational excellence and exceptional results by optimizing operations, negotiating better contracts, utilizing

fostering cross-functional collaboration, overcoming challenges, and navigating complex stakeholders to achieve organizational goals. Adept at implementing innovative solutions to streamline processes, reduce inventory costs, and enhance overall supply chain performance. Strong analytical skills combined with excellent problem-solving abilities to drive continuous improvements. Strong work ethic & commitment to achieving excellence.

## Empowering with Cutting-Edge Solutions





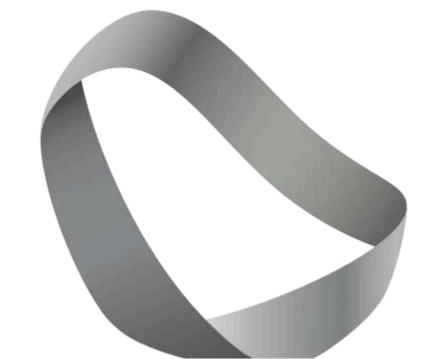




## **TRANSFORMATION PLAN DEVELOPMENT:**

Collaborate with our team to create a customized transformation plan tailored to your factory's specific needs and goals, ensuring a smooth transition to Industry 4.0.





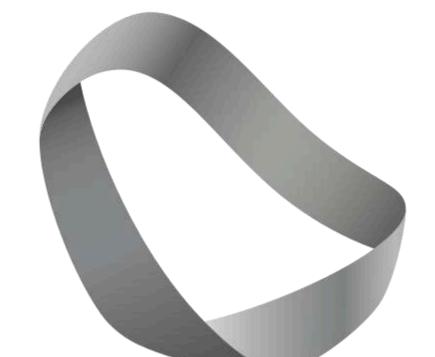




## SOLUTIONS









## **ENTERPRISE RESOURCE** PLANNING (ERP)

Let's Discuss Your Plan Today

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experience

operations

### Launched at 2005 Now 7 Million users around the world are using Odoo More than 25K companies are power by Odoo Best selling ERP 2021 Most completed ERP solution 2021 Award Best ERP user

Stay ahead of the competition with our AI-powered solutions. Boost efficiency and streamline



### **JET'S DISCUSS** YOUR PLAN TODAY

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## **OUR PARTNER CLIENTS**

Let's Discuss Your Plan Today

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## **ARTIFICIAL INTELLIGENCE TECHNOLOGIES:**

Harness the power of AI to optimize your factory's operations, improve decision-making. Our AI solutions enable predictive maintenance, quality control, demand forecasting.

worker safety.

Empowering with Cutting-Edge Solutions

# **Al in Smart Factories: Benefits and Applications**

<u>www.masartech.sa</u>



Explore the advantages of implementing AI in smart factories to optimize productivity, quality, risk management, and sustainability. AI technology enhances efficiency, reduces downtime, and improves







## **BENEFITS OF AT IN SMART FACTORIES**

1. Increased Efficiency: Al-powered automation and predictive maintenance streamline operations, reduce downtime, and optimize resource utilization.

2. Enhanced Quality Control: AI algorithms enable real-time monitoring and analysis of production processes, ensuring consistent quality and minimizing defects. 3. Predictive Maintenance: Al-driven predictive maintenance systems can anticipate equipment failures and schedule maintenance proactively, preventing costly downtime. 4. Data-driven Decision Making: AI analytics provide actionable insights from vast amounts of data, enabling informed decision-making to improve overall performance. 5. Flexible Manufacturing: AI-powered robots and cobots (collaborative robots) enable flexible manufacturing processes, accommodating customization and rapid changes in production demands. 6. Improved Safety: AI technologies, such as computer vision and sensors, enhance workplace safety by identifying hazards, preventing accidents, and ensuring compliance with safety protocols.







## **ATAPPLICATIONS IN SMART FACTORIES**

- - avoid disruptions.

2. Quality Control Systems: Al-powered image recognition and machine learning algorithms inspect products for defects, ensuring consistent quality and compliance with standards. 3. Robotics and Automation: AI enhances robotics and automation in smart factories, enabling autonomous operation, collaborative robots (cobots), and adaptive manufacturing processes. 4. Supply Chain Optimization: AI algorithms optimize supply chain management processes, including inventory management, demand forecasting, and logistics planning, to minimize costs and improve

- efficiency.

1. Predictive Maintenance Systems: Al-driven predictive maintenance systems monitor equipment health in real-time, identifying potential issues before they escalate, and scheduling maintenance proactively to

5. Energy Management: Al-based energy management systems analyze energy consumption patterns and optimize usage, reducing costs and environmental impact while ensuring sustainable operations. <u>www.masartech.sa</u>







### **TELLIGENCE TECHN**

Ensure seamless communication and integration across your factory's systems and devices with our comprehensive network and connectivity solutions. Our offerings include :

## **INDUSTRIAL INTERNET OF THINGS (IIOT)**

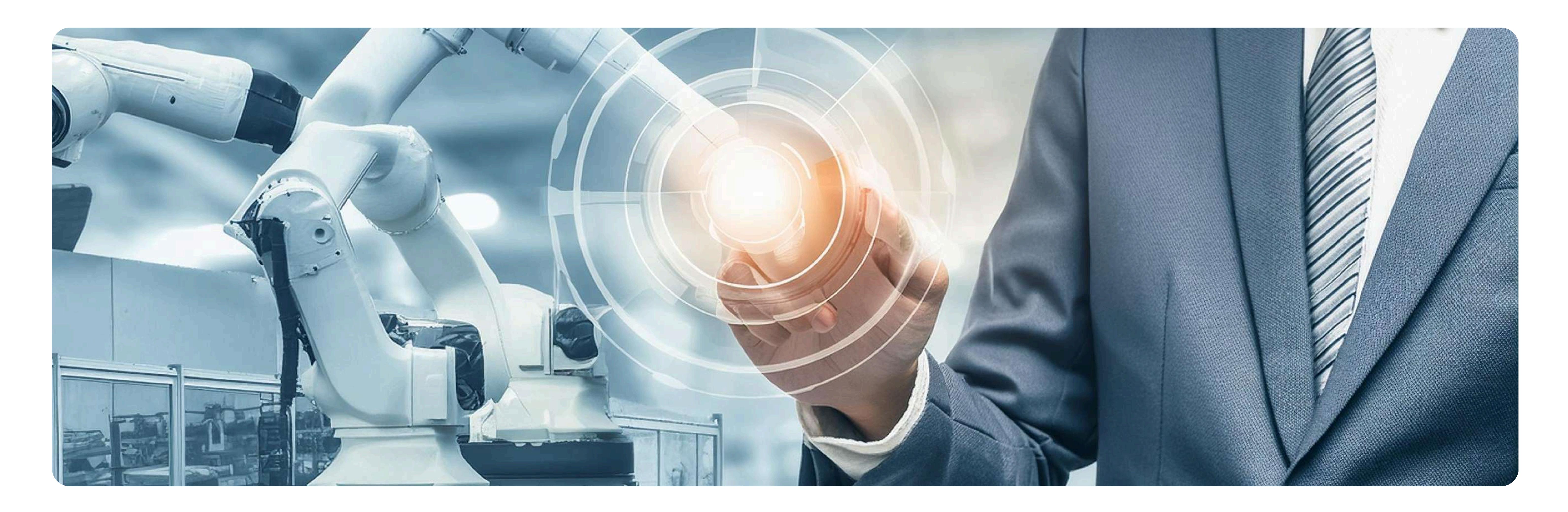
Connect, monitor, and manage your factory's assets in real-time with the Industrial Internet of Things (IIoT).

















## SYSTEM INTEGRATION

Seamlessly integrate disparate systems and technologies within your factory environment to streamline operations and enhance productivity.





## CYBER SECURITY

robust cybersecurity solutions.

## Safeguard your factory's digital infrastructure and operations from cyber threats with our













## INDUSTRIES























# CASE STUDY









## CASE STUDY I Single-site review - Pepperl+Fuchs



### **Pepperl+Fuchs' transformation ambitions**

Pepperl+Fuchs (P+F) is a German industrial technology company that specializes in sensor technology and electrical explosion protection. As a manufacturer, P+F aims to be a reference point for customers in the areas of automation and digitalization by deploying new processes and technologies to transform its production facilities. P+F's leadership team decided to leverage the SIRI programme in 2018 to comprehensively evaluate the Industry 4.0 readiness of its manufacturing sites.

(1)

Site selection: P+F pilots the OSA at its Singapore site Singapore was the first production site selected by P+F to pilot the OSA. The Singapore site – P+F's headquarters for Asian production and one of four key production facilities globally - was chosen because the production facility, established in 1991, was relatively dated. The leadership team identified brownfield opportunities which would transform and modernize this important facility. In addition, P+F had recently set up an IoT-enabled global distribution centre in Singapore in 2016 to increase production capacity and strengthen supply chain and logistical processes. Upgrading the company's Singapore site would pave the way for greater integration between its production and supply chain functions.







### CASE STUDY I

and supply chain functions. the industry average. digitalization aspirations.

### **2 Conducting the first OSA (2018)**

P+F engaged a CSA to conduct an OSA for its Singapore site in 2018. The OSA report highlighted the following learning points:

### 1. The general maturity profile of the Singapore Site was below the 80% Broad Middle average. This maturity profile, which was expected for a 30-year-old facility, reinforced the company's decision to upgrade and modernize the Singapore site.

### 2. Vertical and Horizontal Integration, as well as Workforce Learning & Development, were key

areas to focus on. Based on the OSA Prioritization Matrix exercise, which considered P+F's business needs, the final report recommended that the Singapore site strengthened integration among its various production and supply chain processes to enable better communication between different technology layers on the shop floor and the new distribution centre. The repot also recommended upgrading L&D programmes so that engineers and technicians, many of whom had been with the company for many years years, could refresh their skillsets and be better placed to support P+F's



Based on this assessment, the organization set a three-year goal of uplifting the Singapore site's overall maturity profile to be on par with or better than





### CASE STUDY I



series of initiatives: sudden customer order changes.

ii. o9 Digital Brain, an integrated business planning platform that will eventually allow P+F to connect multiple planning levels across its supply value chain, including external sources such as suppliers. This platform – which is expected to be fully implemented by mid-2023 – will more than double P+F's visibility over its entire production value chain and enable the supply chain team to identify data connections and insights that will drive better decision-making and planning.

**Executing the transformation initiative (2019–2020)** P+F leveraged insights from its 2018 OSA report to design and execute its transformation roadmap. Over two years, the company implemented a

1. Digitalizing shop floor processes. The production team reviewed all existing processes before streamlining workflows and commencing a site-wide exercise to digitalize all remaining processes. P+F also set up a centralized management system for newly digitalized workflows. In doing so, the company reduced the total number of workflows from 10 to 6 and increased its production efficiency in two major product units (photoelectric and ultrasonic sensors) by 5-10%.

2. Introducing new supply chain management tools: To increase supply chain responsiveness, P+F integrated two new supply chain planning tools into its existing enterprise resource planning system. i. M3 Scheduling Workbench (SWB), a near-term scheduling tool that integrates supply chain and procurement business functions to help manufacturers create more reliable production plans. The M3 SWB increased P+F's operational resilience by around 50%, by identifying and accounting for potential raw material bottlenecks due to supply chain disruptions and pre-alerting P+F to any







### CASE STUDY I

3. Updating HR talent development programmes: Highly qualified talent is the foundation of P+F'ssuccess. To encourage P+F employees to embrace the spirit of lifelong learning, the operations and HR departments collaborated to update the existing L&D programme which now: i. Allows each employee to enrol in continuous education training courses subsidized by P+F and the Singaporean government.

technologies.

ii. Includes a new digital curriculum training course under its own P+F "University Campus" to increase employees' level of exposure to digital







### CASE STUDY I

### **Reassessing the site (2021)**

Dimensions

Vertical Integration

**Horizontal Integration** 

**Integrated Product Li** 

**Enterprise Connectiv** 

Workforce Learning 8

Inter- & Intra- Compar

Strategy & Governand

### **Pepperl+Fuchs OSA results**

### 2018 maturity banding

	1
n	1
.ifecycle	1
vity	1
& Development	1
ny Collaboration	1
ICE	1





### 2021 maturity banding 2

2	
2	
2	
2	
3	
4	
2	



### CASE STUDY I

Organization.

P+F has since taken stock of its progress. As shown in the table above, P+F saw a progression of one maturity band among half of the 16 dimensions. These improvements were observed across all three SIRI building blocks – Process, Technology and

Based on 2022 benchmarks, P+F Singapore's current maturity across the eight dimensions (as featured above) now equals or exceeds its industry peers'. P+F has therefore met its objective in the 2018 three-year plan. to upgrade its Singapore site to be on par with the Broad Middle segment.







### CASE STUDY I



## Looking ahead

Following the successful OSA pilot in Singapore, P+F deployed SIRI at three other production facilities in 2021, across Vietnam, Hungary and the Czech Republic. This has enabled P+F to understand the maturity profileof its other key sites, and facilitated transformation initiatives across the entire P+F group. Today, P+F has formed an international working group that will leverage the aggregated findings to develop a three-year, group-wide corporate digitalization strategy for rollout across all P+F subsidiaries. This programme, which will focus on four key dimensions, was presented to the P+F management board in December 2021. Rollout will be overseen by P+F's Industry 4.0 steering committee and supported by a digital automation technology group based out of Singapore.

The OSA gave our digital transformation team stronger visibility and guidance in setting transformation targets. It also ensured our initiatives are focused on areas that are most critical to our needs. We're excited to apply this programme at the organization-wide level. Gunther Kegel, Chief Executive Officer, Pepperl+Fuchs







### CASE STUDY 2



Yokogawa is a globally leading industrial automation company that supports manufacturers worldwide in the digitalization of their production facilities. In their conversations with manufacturers across the globe, Yokogawa has found that many companies are still only venturing into digitalization with a few projects. This cautious approach stems from a lack of understanding about how new technologies can benefit the company's specific operations and uncertainty over which areas will deliver the biggest impact.

To reduce the inertia, Yokogawa has positioned the Official SIRI Assessment (OSA) as an accessible, easily adoptable two-day review of a company's current state of operations, which identifies and prioritizes the areas that require further attention and development. Today, Yokogawa has trained more than 14 CSAs across various geographical regions to build up its capability to administer the OSA as an initial exercise which can help to share the concepts and benefits of digital transformation with manufacturers internationally. Companies that have taken the OSA with Yokogawa have appreciated its broad scope, which covers areas not previously realized to be important. They have also found the evaluation to be effective in visualizing linkages between their own operations, which they have deep knowledge in, and new digital technologies which they have limited exposure to. In the longer term, Yokogawa also sees an opportunity to leverage the OSA findings to stay informed about the latest trends shaping the manufacturing sector, at both company and industry level. Ultimately, these insights will guide Yokogawa in refreshing its portfolio of digital enterprise solutions so that it is well-placed to address the ever-changing needs of its customer base.

### Supporting manufacturers through SIRI – Yokogawa Yokogawa uses SIRI to guide manufacturers on the digitalization journey







### CASE STUDY 2

The COVID-19 pandemic has shown that manufacturers which embrace digitalization are able to react more quickly and effectively to disruption. Yet many manufacturers still struggle with the full digital transformation, overwhelmed by buzzwords, new terminologies and the sheer breadth of the topic. We're pleased that our knowledge is complemented by the Smart Industry Readiness Index. With its practical methodology and accessible approach, SIRI helps manufacturers take the all-important first steps in understanding their own operations and how they stack up against prevailing benchmarks. Yu Dai, Director, Senior Vice President, Digital Solutions Headquarters, Yokogawa Electric Corporation

## Informing sectoral planning and industrial development efforts by governments and industry associations

Many governments and industry associations lack the robust methodologies required to take stock of the manufacturing industry's digital maturity levels. Today, most organizations either rely on anecdotes shared by the general community or self- administered surveys that are periodically issued to collect feedback from a small sample of companies. While these methods provide a broad sense of industry challenges, they lack the rigor needed to formulate institutional policy and programmes.







### CASE STUDY 2

SIRI insights canhelp institutions to implement sectorspecific,targeted maximize efficacy and impact.

SIRI aims to address this gap by providing governments and industry associations with a data-supported methodology that generates

conceptualize and insights on various industries. As SIRI insights are derived from objective reviews administered by trained professionals, they can help institutions to conceptualize and implement sector-specific, targeted interventions that maximize both efficacy and impact.

interventions that To leverage this benefit, these organizations first need their manufacturers to take the OSA to generate insights relating to the overall maturity profile of the community. Two case studies follow, which detail the process and journey taken by different governments and industry associations to realize this ambition and inform more meaningful interventions.







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## TECHNOLOGY **SOLUTION**



